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IDIOT'S DELIGHT by John Wyndham

NEW WORLDS SCIENCE FICTION

VOLUME 24

No. 72

MONTHLY

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News....

B.S.F.A.

British fans had what can only be termed a 'quiet' convention this year after the supreme effort that had been expended last year in staging the 15th World Science Fiction Convention in London. This year's informal conference was held at the George Hotel, Kettering, over Easter, and there was an attendance of some sixty members during the four days.

However, a major item of interest has come from this year's conference—the formation of the official British Science Fiction Association, with a working committee and specific aims and objects in view, the least of which is to create an official organisation where heretofore there has been no such body since the end of 1939, when the old Science Fiction Association was dissolved at the outbreak of World War II.

The Chairman of the new association is David Newman, who was largely instrumental in arranging the programming for last year's World Convention and was subsequently voted a Director of the World Science Fiction Society, whose headquarters are in New York. At the moment it is too early to give complete details of the new Association's plans, although a Treasurer has been appointed and two Joint Honorary Secretaries, but Mr. Newman has indicated that there will be two classes of membership ; full membership at 20/- a year, and associate membership at 10/- a year, the latter will not entitle such associates to vote at any of the Association's meetings.

I understand that a postal library has already been instituted, which is being run from Cheltenham and that an official journal will be issued privately to members every quarter.

Mr. Newman has also stated, " It is almost certain that all future British science fiction Conventions will be sponsored by the new B.S.F.A., and it is our plan to build up the new organisation into one of considerable prestige. Of recent years the tendency amongst the smaller science fiction fan groups has

. . . . Items

been to drift away from the literature as their focal interest, incorporating other interesting hobbies as well. It is our intention to make the B.S.F.A. the springboard for many interesting activities within the science fiction field as a whole."

As soon as I receive more complete details from the new Association, including the Secretarial address, I will pass this information on to you. In the meantime, I would like to open the pages of *Postmortem* for discussion as to the type of activities readers would like to see incorporated in such a new Association. While we, as a company, are in no way connected with the Association officially, I am, naturally, extremely interested in such a project and only too willing to assist it with ideas received from our general readership, which in the normal course of events they would not receive.

In Memoriam

It is with deep regret that for the second month in succession we have to announce the passing of another outstanding science fiction writer, in the person of C. M. Kornbluth of New York, who died in March at the age of 35 from a heart attack during the severe blizzard which swept the Eastern seaboard of the United States.

Cyril Kornbluth, who commenced his writing career at the age of 15, and who had had more than one hundred short stories published in our field, was particularly noted for such outstanding novels as " Takeoff", serialised in *New Worlds* in 1954, " Not This August," and " The Space Merchants," a futuristic satire written in collaboration with Frederik Pohl. He was a brilliant thinker and conversationalist, and his passing will be severely felt by all those who knew him personally.

John Carnell

Michael Troon, son of the 'Ticker' Troon in "For All The Night" (No. 70) is Commander of the British station on the Moon, territory already shared with the Americans and Russians. When international disagreement blows up on Earth it is Michael's duty to press the firing button. If he does so it will be the end of Man's journey to the planets.

IDIOT'S DELIGHT

By John Wyndham

THE MOON A.D. 2044

I

There was a double knock on the alloy door. The Station-Commander, standing with his back to the room, looking out of the window, appeared for the moment not to hear it. Then he turned, just as the knock was repeated.

"Come in," he said, in a flat, unwelcoming tone.

The woman who entered was tall, well-built, and aged about thirty. Her good looks were a trifle austere, but softened slightly by the curls of her short, light-brown hair. Her most striking feature was her soft, blue-grey eyes; they were beautiful, and intelligent, too.

"Good morning, Commander," she said, in a brisk, formal voice.

He waited until the door had latched, then :

" You'll probably be ostracized," he told her.

She shook her head slightly. " My official duty," she said. " Doctors are different. Privileged in some ways, on account of being not quite human in others."

He watched her come further into the room, wondering, as he had before, whether she had originally joined the service because its silky uniform matched her eyes, for she could certainly have advanced more quickly elsewhere. Anyway, the uniform certainly suited her elegant slenderness.

" Am I not invited to sit ?" she inquired.

" By all means you are, if you care to. I thought you might prefer not," he told her.

She approached a chair with the half-floating step that had become second-nature, and let herself sink gently on to it. Without removing her gaze from his face, she pulled out a cigarette-case.

" Sorry," he said, and held the box from the desk towards her. She took one, let him light it for her, and blew the smoke out in a leisurely way.

" Well, what is it ?" he asked, with a touch of irritation.

Still looking at him steadily, she said :

" You know well enough what it is, Michael. It is that this *will not do.*"

He frowned.

" Ellen, I'll be glad if you'll keep out of it. If there is one person on this Station who is not directly involved, it is you."

" Nonsense, Michael. There is *not* one person. But it is just because I am the least involved that I have come to talk to you. Somebody *has* to talk to you. You can't afford just to let the pressure go on rising while you stay in here, like Achilles sulking in his tent."

" A poor simile, Ellen. *I* have not quarrelled with my leader. It is the rest who have quarrelled with theirs—with me."

" That's not the way they see it, Michael."

He turned, and walked over to the window again. Standing there, with his face pale in the bright earthlight, he said :

" I know what they are thinking. They've shown it plainly enough. There's a pane of ice between us. The Station-Commander is now a pariah.

" All the old scores have come up to the surface. I am Ticker Troon's son—the man who got there by easy preferment. For the same reason I'm *still* here, at the age of fifty —five years over the usual grounding age ; and keeping younger men from promotion. I'm known to be in bad with half-a-dozen politicians and much of the top brass in the Space-House. Not to be trusted in my judgment because I'm an enthusiast—i.e., a man with a one-track mind. Would have been thrown out years ago if they had dared to face the outcry—Ticker Troon's son, again. And now there's this."

" Michael," she said calmly. " Just why are you letting this get you down ? What's behind it ?"

He looked hard at her for a moment before he said, with a touch of suspicion :

" What do you mean ?"

" Simply what I say—what is behind this uncharacteristic outburst ? You are perfectly well aware that if you had not earned your rank you would not be here—you'd have been harmlessly stowed away at a desk somewhere, years ago. As for the rest—well, it's mostly true. But the self-pity angle isn't like you. You *could* simply have cashed in and lain back comfortably for life on the strength of being Ticker Troon's son, but you didn't. You took the name he left you into your hand, and you deliberately *used* it for a weapon. It was a good weapon, and of course it made enemies for you, so of course they maligned you. But you know, and hundreds of thousands of people know, that if you had not used it as you did we should not be here today : there wouldn't be any British Moon-Station : and your father would have sacrificed himself for nothing."

" Self-pity—" he began, indignantly.

" Phony self-pity," she corrected, looking at him steadily.

He turned away.

" Would you like to tell me what the proper feeling is when, at a time of crisis, the men that you have worked with, and for—men that you thought had loyalty and respect, even some affection, for you, turn icy cold, and send you to coventry ? It certainly is not the time to feel pride of achievement, is it ?"

She let the question hang for a moment, then :

" Understanding ?" she suggested. " A more sympathetic consideration of the other man's point of view—and the state of his mind, perhaps ?" She paused for several seconds.

" We are none of us in a normal state of mind," she went on. " There is far too much emotion compressed in this place for anyone's judgment to be quite rational. It's harder for some than for others. *And* we don't all have quite the same things uppermost in our minds," she added.

Troon made no reply. He continued to stand with his back to her, gazing steadily out of the window. Presently, she walked across to stand beside him.

The view outside was bleak. In the foreground an utterly barren plain ; a flatness broken only by various sized chunks of rock, and occasionally the rim of a small crater. The harshness of it was hard on the eyes ; the lit surfaces so bright, the shadows so stygian that, if one looked at any one part too long, it dazzled, and seemed to dance about.

Beyond the plain, the mountains stuck up like cardboard cutouts. Eyes accustomed to the weathered mountains of Earth found the sharpness, the height, the vivid jaggedness of them disturbing. Newcomers were always awed, and usually frightened, by them. ' A dead world,' they always said, as they looked on the view for the first time, and they said it in hushed voices, with a feeling that they were seeing the ultimate dreadful place.

Over the horizon to the right hung a fluorescent quarter-segment of the Earth ; a wide wedge bounded on one side by the night line, and serrated at the base by the bare teeth of the mountains.

For more than a minute Troon gazed at its cold, misted blue light before he spoke. Then :

" The idiot's delight," he said.

The doctor nodded slowly.

" Without doubt," she agreed. " And there—there we have it, don't we ?"

She turned away from the window and went back to the chair.

" I know," she said, " or perhaps I should say, I like to think I know what this place means to you. You fought to establish it ; and then you had to fight to maintain it. It has been your job in life ; the purpose of your existence ; the second foothold on the outward journey. Your father died for it ; you have lived for it. You have mothered more than fathered, an ideal : and you have to learn, as mothers learn, that there has to be a weaning.

" Now, up there, there is war. It has been going on for ten days—at God knows what cost : the worst war in history —perhaps even the last. Great cities are holes in the ground; whole countries are black ashes ; seas have boiled up in vapour, and fallen as lethal rain. But still new pillars of smoke spring up, new lakes of fire spread out, and more millions of people die.

" ' The idiot's delight,' you say. But to what extent are you saying that because you hate it for what it is ; and to what extent are you saying it from fear that your work will be ruined—that there may come some turn of events that will drive us off the moon ?"

Troon walked slowly back, and seated himself on a corner of the desk.

" All reasons for hating war are good," he said, " but some are better than others. If you hate it and want to abolish it simply because it kills people—well, there are a number of popular inventions, the car and the airplane, for instance, that you might do well to abolish for the same reason. It is cruel and evil to kill people—but their deaths in war are a symptom, not a cause. I hate war partly because it is stupid —which it has been for a long time—but still more because it has recently become *too* stupid, and too wasteful, and too dangerous."

" I agree. And then, too, of course, much of what it wastes could otherwise be used to further Project Space."

" Certainly, and why not ? Here we are at last, close to the threshold of the universe, with the greatest adventure of the human race just ahead of us, and still this witless, parochial bickering goes on—getting nearer to race suicide every time it flares up."

" And yet," she pointed out, " if it were not for the requirements of strategy we should not be here now."

He shook his head.

" Strategy is the ostensible reason perhaps, but it is not the *only* reason. We are here because the quintessential quality of our age is that of dreams coming true. The truly wishful dreams, the many-minded dreams are now irresistible—they become facts.

" We may reach them deviously, and almost always they have an undesired obverse : we learnt to fly, and carried bombs ; we speed, and destroy thousands of our fellow men ;

we broadcast, and we can lie to the whole world. We can smash our enemies, but if we do, we shall smash ourselves. And some of the dreams have pretty queer midwives, but they get born all the same."

Ellen nodded slowly.

" And reaching for the moon was one of what you call the truly wishful dreams ?"

" Of course. For the moon, first ; and then, one day, for the stars. This is a realisation. But there—" He pointed out of the window at the Earth, "—down there they are seeing us as a hateful silver crescent which they fear—that is the obverse of this particular dream.

" You're very eloquent," said the doctor, a little wondering.

" Aren't you, on your own subject ?"

" But would you be telling me, in an elaborate way, that the end justifies the means ?"

" I'm not interested in justifying. I am simply saying that certain practices which may be unpleasant in themselves can produce results which are not. There is many a flower which would not be growing if the dung had not happened to fall where it did. The Romans built their empire with savage cruelty, but it did make European civilization possible ; because America prospered on slave labour, she was able to achieve independence ; and so on. And now, because the armed forces wanted a position of strategic advantage they have enabled us to start out into space."

" To you, then, this Station—" she waved an encompassing hand, "—this is simply a jumping-off place for the planets."

" Not simply," he told her. " At present it is a strategic outpost—but its potentialities are far more significant."

" Far more important, you mean ?"

" As I see it—yes."

The doctor lit a cigarette, and considered in silence for a few moments. Then she said :

" There seems to me very little doubt that most people here have a pretty accurate idea of your scale of values, Michael. It would not be news to you, I suppose, that with the exception of three or four—and the Astronomical Section which is starry-eyed, anyway—almost nobody shares them?"

" It would not," he said. " It has not been, for years ; but it is only lately that it has become a matter of uncomfort-

able importance. Even so, millions of people *can* be wrong —and often have been."

She nodded, and went on, equably :

" Well, suppose we take a look at it from their point of view. All the people here volunteered, and were posted here as a garrison. They did not, and they do not, consider it primarily as a jumping-off place—though I suppose some of them think it may become that one day—now, at this moment, they are seeing it as what it was established to be—a Bombardment Station : a strategic position from which a missile can be placed within a five-mile circle drawn anywhere on Earth. That, they say, and quite truly say, is the reason for the Station's existence ; and the purpose for which it is equipped. It was built—just as the other Moon Stations were built—to be a threat. It was hoped that they would never be used, simply because the knowledge of their existence would be an incentive to keep the peace.

" Well, that hope has been wiped out. God knows who, or what, really started this war, but it has come. And what happened ? The Russian Station launched a salvo of missiles. The American Station began pumping out a systematic bombardment. The moon, in fact, went into action. But what part did the British Station play in this action ? It sent off just three, medium-weight missiles !

" The American Station spotted that Russian freighter-rocket coming in, and got it, with a light missile. The Russian Station—and, by the look of it, one of the Russian Satellites —thereupon hammered the American Station, which erupted missiles for a time, both local and Earth-bound, and then suddenly went quiet. The Russian Station kept on sending missiles at intervals for a time, then it, too, went quiet.

" And what were we doing while all this was going on ? We were sending off three more, medium-sized missiles. And since the Russian Station stopped, we have contributed another three.

" *Nine medium-sized missiles* ! Our total part in the war, to date !

" Meanwhile, the real war goes on up there. And what's happening in it ? Nobody knows. One minute's news is corrected, or denied, a few minutes later. All we *do* know for sure is that the two greatest powers there have ever been are out to destroy one another with every weapon they possess. Hundreds of cities and towns must have vanished, and all the

people in them. Whole continents are being scorched and ruined.

" Is either side winning ? *Can* either side win ? Will there be anything left ? What has happened to our own country and our homes ? We *don't know* !

" And we do nothing ! We just sit out here, and look at the Earth, all calm and pearly-blue, and wonder hour after hour—day after day, now—what horrors are going on under the clouds. Thinking about our families and friends, and what may have happened to them . . .

" The wonder to me is that so few of us, as yet, have cracked up. But I warn you, professionally, that if things go on like this, more of us will before long . . .

" *Of course* the men brood, and become more desperate and rebellious as it goes on. *Of course* they ask themselves what we are here for at all, if not to be used. Why have we not fired our big missiles ? Perhaps they would not count a great deal in the scale of things, but they'd be something : we'd be doing what we can. They were the reason we were sent here—so why haven't we fired them ? Why didn't we fire them at the beginning, when they would have had most effect ? The other Stations did. Why have we still not fired them, even now ? Can you tell us that ?"

She ended, looking at him steadily. He looked back at her, just as steadily.

" I don't plan the strategy," he said. " It is not my job to understand top-level decisions. I am here to carry out the orders I receive."

" A very proper reply, Station-Commander," commented the doctor, and went on waiting. He did not amplify, and she found the continuation thrown back on her.

" They tell me," she observed, " that we have something like seventy major missiles, with atomic warheads. It has frequently been pointed out that the earlier the big blows fall, the more effective they are in destroying the enemy's potential —and in preventing retaliation. The aim, in fact, is the quick knock-out. But there our missiles still rest—unused even now."

" Their use," Troon pointed out again, " is not for us here to decide. It is possible that the first inter-continental missiles did what was required—in which case it would simply be waste to launch these. It is not impossible, either, that if

they are held in reserve there could be a point when our ability to continue the bombardment might be decisive."

She shook her head.

" If the strategic targets have been destroyed, what is there left for decisive bombardment? These aren't weapons for use against armies in the field. What is worrying our personnel is, why weren't our weapons used—on the right kind of targets, at the right time?"

Troon shrugged.

" This is a pointless discussion, Ellen. Even if we were able to fire without orders, what should we aim at? We've no idea which targets have been destroyed, or which are only damaged. Indeed, for all we know, some of the target areas may now be occupied by our own people. If we had been needed, we should have had the orders."

The doctor remained quiet for a full half minute, making up her mind. Then she said, forthrightly :

" I think you had better understand this, Michael. If there is not some use made of these missiles very soon, or if there is not some intelligible statement about them from H.Q., you are going to have a mutiny on your hands."

II

The Commander sat quite still on the corner of the desk, looking not at her, but towards the window. Presently :

" As bad as that?" he asked.

" Yes, Michael. About as bad as it can be, short of open rebellion."

" 'M. I wonder what they think they'll get out of that."

" They aren't thinking much at all. They're worried sick, frustrated, feeling desperate, and needing some kind—any kind—of action to relieve the tension."

" So they'd like to unhorse me, and poop off major atomic missiles, just for the hell of it."

She shook her head, looking at him unhappily.

" It's not exactly that, Michael. It's—oh dear, this is difficult—it's because a rumour has got round that they *should* have been sent off."

She watched him as the implication came home. At length, he said, with icy calmness :

" I see. I am supposed to have the other Nelson touch—the blind eye?"

" Some of them say so. A lot of the rest are beginning to wonder."

" There has to be a reason. Even a Commanding Officer must be supposed to have a motive for dereliction of duty amounting to high treason."

" Of course, Michael."

" Well, I'd better have it. What is it ?"

Ellen took a deep breath.

" It's this. So long as we don't send those missiles we may be safe : once we do start sending them we'll probably bring down retaliation, either from the Russian Station, if it still exists, or from one of their Satellites. Our nine medium missiles haven't been a serious matter—not serious enough to justify them into provoking us to use our heavies. But, if we *do* start to use the major ones, it will almost certainly mean the end of this Station. Your own view of the primary importance of the Station is well known—you admitted it to me just now . . . So, you see, a motive can be made to appear . . .

" The American Station has almost certainly gone ; possibly the Russian, too. If we go as well, there will no longer be anyone on what you called the ' threshold of the universe.' *But*, if we were able somehow to ride out the war, we should be in sole possession of the moon, and still on the ' threshold ' . . . Shouldn't we ?"

" Yes. You make the motive quite uncomfortably clear," he told her. " But an ambition is not necessarily an obsession, you know."

" This is a closed community, in a high state of nervous tension."

He thought for some moments then :

" Can you predict ? Will it produce a revolution, or a mass-rising ?" he asked her.

" A revolution," she said, without hesitation. " Your officers will arrest you, once they have plucked up the courage. That could take a day or two yet. It is a pretty grim step—especially when the C.O. happens to be a popular figure, too . . ." She shrugged her shoulders.

" I must think," he said.

He went round behind the desk and sat down, resting his elbows on it. The room became as quiet as the construction of the Station permitted while he considered behind closed eyes. After several minutes he opened them.

" *If* they should arrest me," he said, " their next move must be to search the message-files—(a) to justify themselves by finding evidence against me, and (b) to find out what the orders were, and whether they can still be carried out.

" When they discover that, except for three sets of three medium missiles, no launching orders have been received, there will be a panic. Such of my officers as may have been persuaded into this will be utterly shattered—you can't just apologise to your C.O. for arresting him as a traitor, and expect it to be left at that.

" There will be just one hope left, so someone more decisive than the rest will radio H.Q. that I have had a breakdown, or something of the kind, and request a repeat of all launching orders. When that brings nothing but a repetition of the same three sets of three, they'll be really sunk.

" Then, I should think, there will be a split. Some of them will have cold feet, and be for taking the consequences before matters get even worse ; a number of men are bound to say ' in for a penny, in for a pound," and want to launch the missiles, anyway. Some will have swung back, and argue that if H.Q. wanted launchings they would have said so—so why risk a further act of wanton insubordination which will probably bring enemy reprisals, anyway.

" Even if good sense and cold feet were to win, and I should be released, I should have lost much of my authority and prestige, and there would be a very, very sticky situation all the way round.

" On the whole, I think it would be easier for everyone if I were to swallow my pride and discourage my arrest by anticipating their second move."

He paused, contemplating the doctor.

" As you know, Ellen, it is not a habit of mine to reflect aloud in this manner. But I think it would do no harm if some idea of the probable results of my arrest were to filter round. Don't you agree ?"

She nodded, without speaking. He got up from the desk.

" I shall now send for Sub-Commander Reeves—and I think we will have Sub-Commander Calmore as well—and explain to them with as little loss of face as possible that, the changes of war being what they are, and the chances of leakage now being nil, I am lifting security on messages received. This is being done in order that all senior officers

may fully acquaint themselves with the situation, in readiness for any emergency.

" This should have enough deflationary effect to stop them from making that particular kind of fool of themselves, don't you think ?"

" But won't they just say that you must have destroyed the relevant messages ?" she objected.

" Oh, that one wouldn't do. There's service procedure. They will be able to compare my file with the Codes Section's files, and that with the Radio Section's log-book, and they'll find they all tie up."

She went on studying him.

" I still don't understand why our missiles have not been launched," she said.

" No ? Well, perhaps all will be revealed to us one day. In the meantime—suppose we just go on obeying our orders. It's really much simpler.

As the door closed behind her, he continued to stare at it for fully a minute. Then he flipped over a switch, and requested the presence of his Sub-Commanders.

With the interview over, Troon allowed a few minutes for the officers to get clear. They had gone off looking a little winded, one carrying the message-file, the other his signed authority of access to the code files, in a bemused way. Then, feeling the need for a change, he, too, left his room, and made his way to the entrance-port. In the dressing-room the man on duty jumped to his feet and saluted.

" Carry on, Hughes," Troon told him. " I'm going outside for an hour or so."

" Yes, sir," said the man. He sat down and resumed work on the suit he was servicing.

Troon lifted his own scarlet pressure suit from its pegs, and inspected it carefully. Satisfied, he shed his uniform jacket and trousers, and got into it. He carried out the routine checks and tests ; finally, he switched on the radio, and got an acknowledgement from the girl at the main instrument desk. He told her that he would be available for urgent calls only. When he spoke again his voice reached the duty man from a loudspeaker on the wall. The man got up, and moved to the door of the smaller, two-man airlock.

" An hour, you said, sir ?" he inquired.

" Make it an hour and ten minutes," Troon told him.

" Yes, sir." The man set the hand of the reminder-dial seventy minutes ahead of the clock. If the Station-Commander had not returned, or had failed to notify an extension by then, the rescue squad would automatically be summoned.

The duty-man operated the lock, and presently Troon was outside ; a vivid splash of colour in the monochrome landscape, the only moving thing in the whole wilderness. He set off southward with the curious lilting moon-step which long service had made second nature.

At half a mile or so he paused, and made a show of inspecting one or two of the missile-pits there. They were, as they were intended to be, almost invisible. The top of each shaft had a cover of stiff fibre which matched the colour of the ground about it. A scatter of sand and stones on top made it difficult to detect, even at a few yards. He pottered from one to another for a few minutes, and then stood looking back at the Station.

It was dwarfed and made toy-like by the mountains behind it. The radar and radio towers, and the sun-bowls looking like huge artificial flowers on the top of their masts, gave a rough scale ; but for them it would have been difficult to judge whether the Station itself was the size of a half-inflated balloon, or half a puff-ball. It was hard to appreciate that the main body was a hundred and twenty yards in diameter at ground level until one looked at the corridors connecting it with the smaller, storage-domes, and remembered that the roofs of those corridors were four feet above one's head.

Troon continued to regard it for some moments, then he turned round, pursued a zig-zag course between the missile-pits, and when he was hidden from the Station by a rocky outcrop, sat down. There he leaned back and, in such modified comfort as the suit allowed, contemplated the prospect dominated by the bright segment of Earth—and also the shape of the future in a world ruined by war.

Looking back on his life, it was only those years before he was twelve that appeared sunlit and halcyon. He, his mother, and his grandfather had then lived quietly and happily in a roomy cottage. They had their friends and neighbours ; he had his own school friends in the village ; beyond that small circle they had been, except for his grandfather's reputation

as a classical scholar, unnoticed and unknown. And then, in the September of his thirteenth year had come the break-up.

A man called Tallence had somehow stumbled across the story of Ticker Troon and the missile, and had applied to the authorities for the lifting of the security ban. After twelve years there was no good reason for silence—and, indeed, had been none for some time. Four Satellite Stations had for several years been known to be in position—the British one, two fair-sized Russian ones, and the huge American one. The existence of space-mines was no longer a secret, nor was the fact that all the Stations now carried means to combat them. Tallence, therefore, had managed to carry his point and, presently, to produce his book.

It was a good book, and the publishers spared nothing on the publicity that launched it ; the conveniently timed citation of a posthumous V.C. for Ticker Troon helped, too ; and the book went straight into the epic class. It was filmed, televised, digested, and strip-treated until, a year later, there was scarcely a man woman or child outside the Soviet Empire who did not know of Ticker Troon and his exploit.

For his son it had been all very exciting at first, but the excitement of being a public figure had soon worn off. The sense of being watched became distasteful. The feeling that he was expected to be exceptional weighed upon him at school, and only slightly less when he went up to Oxford. The house that his mother had accepted with a feeling of reluctant obligation never had the quality of home that there had been in the cottage. His mother seemed to be forever socially busy now ; his new interests were not shared by his grandfather ; it seemed impossible to remain unreminded for an hour that he was the son of Ticker Troon—and that was rather like finding one had Sir Francis Drake, Lord Nelson, or the National Gallery, for a father.

His discovered fascination with the problems of space made it worse ; as if a part of him had turned traitor and conspired to draw him away from his old interests, and deeper into his father's shadow. An unquenchable curiosity had sprung alight in his mind, and presently he had been forced to admit that though his father's qualities might be beyond him, he had certainly inherited his one passionate interest. With that once decided, he had been willing to set about using his name to further it, and he had entered the Service.

III

Troon's first brush with the politicians had followed the announcement (a premature announcement, in point of fact) that the Russians were about to set up a Moon Station. The immediate effect of this was that the Americans, who had got into the habit of regarding the moon as a piece of U.S.—bespoken real estate that they would get around to developing when they were ready, were shocked into intense activity. The press wanted, as usual, to know Lieutenant Troon's views on the situation. He had them ready, and they made their first appearance in a responsible Sunday newspaper with an influential circulation.

He was well aware of the situation. A Moon Station was not a thing that could be set up for just a few million pounds. It could not but entail an expenditure that the government would be alarmed to contemplate, and he knew that the official policy would be to discourage any suggestion of a British Moon Station as a frivolous and profligate project, minimizing, or brushing aside, all arguments in its favour.

In his short article, Troon had mentioned the advantages to strategy and to science, but had dwelt chiefly upon prestige. Failure to establish such a Station would be a turning point in British policy ; it would amount to the first concrete confession that Britain was content to drop out of the van ; that, in fact, it was now willing to admit itself as a second-or third-rate power. It would be public confirmation of the view, held in many circles for some time now, that the British had had their day, and were dwindling into their sunset ; that all their greatness would soon lie with that of Greece, Rome, and Spain—in their past.

Troon's first carpeting over the matter was by his C.O. He then trod a number of ascending carpets until he found himself facing a somewhat pompous Under-Secretary who began, as the rest had done, by pointing out that he had broken Service regulations by publishing an unapproved article and then worked round by degrees to the suggestion that he might, upon reconsideration, find that a Moon Station had little strategic superiority to an armed Satellite Station, and that if the Americans and Russians did build them, they would be wasting material and money.

" Moreover I am able to tell you confidentially," the Under-Secretary had added, " that this is also the view of the American authorities themselves."

" Indeed, sir," said Troon. " In that case it seems odd that they should be doing it."

" They would not be, I assure you, but for the Russians. Clearly, the moon cannot be left entirely to Russian exploitation. So, as the Americans can afford to do it, they are doing it in spite of their views on its worth. And since they are it is not necessary for us to do so."

"You think, sir, that it will do us no harm to be seen standing on American feet instead of on our own in this enterprise ?"

" Young man," said the Under-Secretary severely, " there are many pretensions which are not worth the price they would exact. You have been unpatriotic enough to suggest in print that our sun is setting. I emphatically deny that. Nevertheless, it has to be admitted that whatever we have been, and whatever we may yet be, we are not, at present, one of the wealthier nations. We cannot afford such an extravagance for mere ostentation."

" But if we do keep out of this, sir, our prestige cannot fail to suffer, whatever arguments we may advance. As for the American denial of strategic value, I have heard it before ; and I continue to regard it as a wool-pulling. A Moon Station would be far less vulnerable, and could mount vastly greater fire power than any Satellite Station."

The Under-Secretary's manner had become cold.

" My information does not support that statement. Nor does the policy of the Government. I must therefore request you . . . "

Troon had heard him out politely and patiently. He knew, and he was sure that the Under-Secretary must know, too, that the damage already done to the declared policy was considerable. There would be a campaign for a Moon Station certainly. Even if he were publicly to reverse his views, or even if he were to remain silent, the newspapers would enjoy tilting at those who had brought pressure to bear on him. He had only to behave circumspectly for a few weeks while the campaign gathered force, to refuse to give opinions where he had been ready to give them before, and perhaps look a little rueful in his silence . . . There would have been a campaign in some of the popular papers in any case ; the main effect of his making his views known early was that in the

public mind he appeared as the Moon Station's most important advocate.

In a few weeks, feeling among the electors had become clear enough to worry the government, and produce a rather more conciliatory tone. It was conceded that a British Moon Station *might* be considered, if the estimates were satisfactory. The prodigious size of the estimates which were produced, however, came as a shock which sharpened the divided opinions.

At this point, the Americans took a kindly hand. They had apparently changed their views on the value of Moon Stations, and, having done so, felt that it would be advantageous for the West to have two such Stations to the rival's one. Accordingly, they offered to advance a part of the cost, and supply much of the equipment. It was a generous gesture.

Presently there was a rumour in circulation that the wrong kind of thinking—to put it at its least slanderous—was going on at high levels, and that there was actually in existence a scheme by which a Station could be established at a cost very considerably under half the present estimates ; and that Troon (You know, son of Ticker Troon) thought well of it.

Troon had waited, quietly.

Presently, he found himself again invited to high places. He was modestly surprised, and could not think how the proposal came to be connected with his name but, as a matter of fact, well, yes ; he did happen to have seen a scheme . . . Oh no, it was quite an error to think it had anything to do with him, a complete misunderstanding. The idea had been worked out by a man called Flanderys. It certainly had some interesting points. Yes, he did know Flanderys slightly. Yes, he was sure that Flanderys would be glad to explain his ideas . . .

The American and Russian expeditions seemed, in so far as their claims had ever been sorted out, to have arrived on the moon simultaneously ; the former landing in Copernicus, the latter in Ptolemy—both claiming priority, and both consequently announcing their annexation of the entire territory of the moon. Experience with the Satellite Stations had already shown that any romantic ideas of a *pax coelestis* should be abandoned but, as eaeh expedition was highly vulnerable, both concerned themselves primarily with tunnelling into the rock in order to establish strongholds from

which they would be able to dispute their rights with greater confidence.

Some six months later, the smaller British expedition set down in the crater of Archimedes, with the Russian six hundred miles away beyond the Apennine Mountains to the south, and the American four hundred miles or so to the north-east. There, in contrast with their intensively burrowing neighbours, they proceeded to establish themselves on the surface. They had, it was true, one drilling-machine, but this, compared with the huge tunnelling engines of the others that had cost a good many times their weight in uranium to transport, was a mere toy which they employed in sinking a series of six-foot diameter pits.

The Flanderys Dome, essentially a modification of Domes used in the Arctic for some years, was a simple affair to erect. It was spread out on a levelled part of the crater floor, coupled with hoses, and left to inflate. With only the light gravity of the moon weighing down its fabric, the outer casing was fully shaped at a pressure of eight pounds (Earth) per square inch, at fifteen it was perfectly taut. Then the contents of the various rockets and containers went into it through the airlocks, or the annuli. The air regenerating plants were started up, the temperature controls coupled, and the work of building the Station inside the dome could begin.

The Americans, Troon recalled, had been interested. They reckoned it quite an idea for use on a moon where there did not happen to be any Russians about ; but on one where there were, they thought it plain nuts, and said so. The Russians themselves, he remembered with a smile, had been bewildered. A flimsy contrivance that could be completely wrecked by a single, old-fashioned h.e. shell was in their opinion utter madness, and a sitting temptation. They did not, however yield to the temptation since that would almost certainly precipitate untimely action by the Americans. Nevertheless the presumption of a declining Power in arriving to settle itself blandly and unprotected in the open while two great Powers were competing to tunnel themselves hundreds of feet into the rock was a curious piece of effrontery. Even a less suspicious mind than the Russian could well have felt that there was something here that was not meeting the eye. They instructed their agents to investigate.

The investigation took a little time, but presently the solution forthcame—an inconvenient clarification. As had been assumed, the pits that the British had been busily drilling at the same time that they built their Station into the Dome, were missile-shafts. This was similar to the work being done by the other two parties themselves—except that where the Americans also used pits, the Russians favoured launching ramps. The more disturbing aspect of it came to light later.

The British system of control, it appeared, was to use a main computing-engine to direct the aim and setting of any missile. Once the missile had been launched, it was kept on course by its own computor and servo systems. The main computor was, unlike the rest of the station, protected in a chamber drilled to a considerable depth. One of its more interesting features was that in certain conditions it was capable of automatically computing for, and dispatching, missiles until all were gone. A quite simple punched-card system was used in conjunction with a chronometer ; each card being related to a selected target. One of the conditions which would cause this pack of cards to be fed to the computor was a drop in the Station's air-pressure. Fifteen pounds per square inch was its normal, and there was allowance for reasonable variation. Should the Dome be so unfortunate, however, as to suffer a misfortune sufficient to reduce the air-pressure to seven pounds the missile-dispatching mechanism would automatically go into action.

All things considered, it appeared highly desirable from the Russian point of view that the Flanderys Dome should not suffer any such misadventure.

During the years that had intervened between the establishment of the Station, and his succeeding to command of it, Troon, who had rapidly become something of a selenologist himself, had nursed from the time of the landing an ambition to see and record something of the moon's other side. According to rumour, the Russians had, within a year of their arrival sent an ill-fated expedition there, but the truth or otherwise of the report remained hidden by the usual Slav passion for secrecy. It was one of Troon's regrets that exploration would have to wait on further development of the jet-platforms, but there was no reason to think that the invisible side held any surprises ; photographs taken from circling

rockets showed no more than a different pattern of the same pieces—mountains, ' seas,' and craters innumerable.

The regret that exploration must fall to someone else was no more than minor ; most of what he had wanted to do, he had done. The establishment of the Moon Station was the end to which he had worked, manoeuvred, and contrived. He had given Flanderys the idea of the Dome, and helped him to work it out ; and, when that looked like being rejected for its vulnerability, he had briefed another friend to produce the solution of automatic reprisals which they had called Project Stalemate. It was better, he had thought then, and still thought, that the affair should appear to be a composite achievement rather than a one man show. He was satisfied with his work.

He had almost reconciled himself to handing over the command in another eight months with the thought that the Station's future was secure, for, however much it might be grudged as a charge on the armed forces, the discovery of rare elements had given it practical importance, the astronomers attached great value to the Station, and the medical profession, too, had found it useful for special studies.

But now there had come this war, and he was wondering whether that might mean the end of all the Moon stations. If this one survived, would there be the wealth, or even the technical means, left to sustain it when the destruction was finished ? Was it not very likely that everybody would be too busy trying simply to survive in a shattered world to concern themselves with such exotic matters as the conquest of space . . . ?

Well, there was nothing he could do about that—nothing but wait and see what the outcome was, and be ready to seize any opportunity that showed.

Troon got up, and walked out from behind the rock. He stood for some moments, a lone scarlet figure in the black and white desert, looking at his Moon Station. Then, picking his path carefully between the missile-pits, made his unhurried way back to it.

IV

At the end of dinner he asked if he might have the pleasure of the doctor's company at coffee in his office. Looking at her over the rim of his cup, he said :

" It would seem to have worked."

She regarded him quizzically through her cigarette smoke.

" Yes, indeed," she agreed. " Like a very hungry bacteriophage. I felt as if I were watching a film speeded up to twice natural pace." She paused, and then added : " Of course, I am not familiar with the usual reactions of Commanding Officers who have been suspected of treason and stood in some danger of lynching, but one would not have been surprised at a little more—er—perturbation . . . "

Troon grinned.

" A bit short on self-respect ?" He shook his head. " This is a funny place, Ellen. When you have been here a little longer your own sense of values will seem a little less settled."

" I have suspected that already."

" We realised when we came here that there would be particular problems, but we could not foresee all of them. We realised that we'd need men able to adapt to life in a small community, and because they would be restricted almost all the time to the Station, we had them vetted for claustrophobic tendencies, too. But it did not occur to anyone that, out here, they would have to contend with claustrophobia and agoraphobia at the same time. Yet it is so ; we are shut in, in a vast emptiness—it made a pretty grim mental conflict for a lot of them, and morale went down and down. After a year of it the first Station-Commander began to battle for an establishment of women clerks, orderlies, and cooks. His report was quite dramatically eloquent. ' If this Station,' he wrote, 'is required to keep to its present establishment then, in my considered opinion, a complete collapse of morale will follow in a short time. It is of the utmost importance that we take all practical steps which will help to give it the character of a normal human community. Any measures that will keep this wilderness from howling in the men's minds, and the horrors of eternity from frost-biting their souls, should be employed without delay.' Good Lyceum stuff, that, but true, all the same. There was a great deal of misgiving at home—but no lack of women volunteers ; and when they did come, most of them turned out to be more adaptable than the men. And

then, of course, the patriarchal aspect of the C.O's job came still more to the force. It is no sort of a place for a disciplinarian to build up his ego ; the best that can be done is to keep it working as harmoniously as possible.

" I have been here long enough to take its pulse fairly well as a rule, but this time I slipped up. Now, I don't want that to happen again, so I'd be glad of your further help to see that it doesn't. We've dislodged this particuler source of trouble but the causes are still there ; the frustrations are still buzzing about, and soon they are going to find a new place to swarm. I want the news early, the moment they look as if they have found it. Can I rely on you for that ?"

" But, seeing that the cause—the immediate cause, that is—is H.Q.'s failure to use us, I don't see that there is anything here for them to concentrate the frustration on."

" Nor do I. But since they cannot reach the high-brass back home, they will find something or other to sublimate it on, believe me."

" Very well, I'll be your ear to the ground. But I still don't understand. Why—why *doesn't* H.Q. use these missiles ? We know we should be plastered, wiped out, in an attempt to put the main computor out of action. But most of the men are past caring about that. They have reached a sort of swashbuckling, gotterdamerung state of mind by now. They reckon that their families, their homes, and their towns must have gone, so they are saying : ' What the hell matters now ?' There is still just a hope that we are being reserved for a final, smashing blow, but when that goes, I think they'll try to fire them themselves."

Troon thought a little, then he said :

" I think we have passed the peak of likelihood of desperate action. Now that they are sure that no firing orders were received, they must most of them swing over to the proposition that we are being conserved for some decisive moment—with the corollary that if our missiles are not available when they are called for, the whole strategy of a campaign could be wrecked. After all, could it not come to the point where the last man who still has ammunition holds the field ? For all we can tell, we may at this very moment be representing a threat which dominates the whole situation. Someone could be saying : ' Unconditional surrender *now*. Or we'll bomb you again, from the moon.' If so, we are a rather emphatic example of ' they also serve . . .' "

" Yes," she said, after reflection. " I think that *must* be the intention. What other reason could there be ?"

The jangle of the bedside telephone woke Troon abruptly. He had the handpiece to his ear before his eyes were well open.

" Radar Watch here, sir," said a voice, with a tinge of excitement behind it. " Two ufos observed approaching south-east by south. Height one thousand ; estimated speed under one hundred."

" Two *what* ?" inquired Troon, collecting his wits.

" Unidentified flying objects, sir."

He grunted. It was so long since he had encountered the term that he had all but forgotten it.

" You mean jet-platforms ?" he suggested.

" Possibly, sir." The voice sounded a little hurt.

" You've warned the guard ?"

" Yes, sir. They're in the lock now."

" Good. How far off are these—er—ufos ?"

" Approximately forty miles now."

" Right. Pick them up televisually as soon as possible, and let me know. Tell switchboard to cut me in on the guard's link right away."

Troon put down the telephone, and threw back the bedcovers. He had barely put a foot on the floor when there was a sound of voices in his office next door. One, more authoritive than the rest, cut across the babble.

" Zero, boys. Open her up."

Troon, still in his pyjamas went through to his office, and approached his desk. From the wall-speaker came the sound of breathing, and the creak of gear as the men left the lock. A voice said :

" Damned if I can see any bloody ufos. Can you, Sarge ?"

" *That*," said the sergeant's voice patiently, " is south-east by south, my lad."

" Okay. But I still can't see a bloody ufo. If you—"

" Sergeant Witley," said Troon, into the microphone. A hush fell over the party.

" Yes, sir."

" How many are you ?"

" Six men with me, sir. Six more following."

" Arms ?"

" Light machine-gun and six bombs, each man, sir. Two rocket-tubes for the party."

" That'll do. Ever used a gun on the moon, Sergeant ?"

" No, sir." There was a touch of reproof in the man's voice, but one did not waste ammunition that had cost several pounds a round to bring in. Troon said :

" Put your sights right down. For practical purposes there is no trajectory. If you do have to shoot, try to get your back against a rock ; if you can't do that, lie down. Do *not* try to fire from a standing position. If you haven't learnt the trick of it, you'll go into half a dozen back somersaults with the first burst. All of you got that ?"

There were murmured acknowledgements.

" I don't for a moment suppose it will be necessary to shoot," Troon continued, " but be ready. You will not initiate hostilities, but at any sign of a hostile act you, Sergeant, will reply instantly, and your men will give you support. No one else will act on his own. Is that clear ?"

" Yes, sir."

" Good. Carry on now, Sergeant Witley. "

To a background sound of the sergeant making his dispositions, Troon hurried into his clothes. He was almost dressed when the same voice as before complained :

" Still I don't see no bloody—yes, I do, though, by god ! Something just caught the light to the right of old Mammoth Tooth, see . . . ?"

At the same moment the telephone rang. Troon picked it up.

" Got the telly on them now, sir. Two platforms. Four men on one, five on the other. Scarcely any gear with them. Wearing Russian-type suits. Headed straight this way."

" Any weapons ?"

" None visible, sir."

" Very well. Inform the guard."

He hung up, and listened to the sergeant receiving and acknowledging the message, while he finished dressing. Then he picked up the telephone again to tell the switchboard :

" Inform the W.O.'s mess that I shall observe from there. And switch the guard link through to there right away."

He glanced at the looking-glass, picked up his cap, and left his quarters, with an air of purpose, but carefully unhurried.

When he arrived at the W.O.'s mess on the south-east side, the two platforms were already visible as shining specks picked out by the sunlight against the spangled black sky. His officers arrived at almost the same moment, and stood beside him, watching the specks grow larger. Presently, in spite of the distance, the clear airlessness made it possible to see the platforms themselves, the pinkish-white haze of the jets supporting them, and the clusters of brightly coloured space suits upon them. Troon did not try to judge the distance ; in his opinion, nothing less precise than a rangefinder was any use on the moon. He clicked-on the hand mike.

" Sergeant Witley," he instructed, " extend your men in a semi-circle, and detail one of them to signal the platforms down within it. Control, cut my guard-link now, but leave me linked to you."

" Guard-link cut, sir."

" Is your standby with you ?"

" Yes, sir."

" Tell her to search for the Russian intercom wave-length. It's something a little shorter than ours as a rule. When she finds it, she is to hold it until further notice. Does she speak Russian ?"

" Yes, sir."

" Good. She is to report at once if there is any suggestion of hostile intention in their talk. Cut me in on the guard-link again now."

The two platforms continued smoothly towards them, dropping on a long slant as they came. The sergeants' men were prone, with their guns aimed. They were deployed in a wide crescent. In the middle of it stood a lone figure in a suit of vivid magenta, his gun slung, while he beckoned the platforms in with both arms. The platforms slowed to a stop a dozen yards short of the signaller, at a height of some ten feet. Then, with their jets blowing dust and grit away from under them, they sank gently down. As they landed, the space-suited figures on them let go of their holds, and showed empty hands.

" One of them is asking for you, sir, in English," Control told him.

" Cut him in," Troon instructed.

A voice with a slight foreign accent, and a trace of American influence said :

" Commander Troon, please allow me to introduce myself. General Alexei Goudenkovitch Budorieff, of the Red Army. I had the honour to command the Moon Station of the U.S.S.R."

" Commander Troon speaking, General. Did I understand you to say that you *had* that honour ?"

He gazed out of the window at the platforms, trying to identify the speaker. There was something in the stance of a man in a searing orange suit that seemed to single him out.

" Yes, Commander. The Soviet Moon Station ceased to exist several earth-days ago. I have brought my men to you because we are—very hungry."

It took a moment for the full implication to register, and then Troon was not quite sure.

" You mean you have brought *all* your men, General ?"

" All that are left, Commander."

Troon stared out at the little group of nine men in their vivid pressure-suits. The latest Intelligence Report, he recalled, had given the full complement of the Russian Station as three hundred and fifty-six. He said :

" Please come in, General. Sergeant Witley, escort the General and his men to the airlock."

V

The General gazed round at the officers assembled in their mess. Both he and his aide beside him were looking a great deal better for two large meals separated by ten hours of sleep. The lines of hunger and fatigue had left his face, though signs of strain remained.

" Gentlemen," he said, " I have decided to give you an account of the action at the Moon Station of the U.S.S.R. while it is fresh in my mind, for several reasons. One is that I consider it a piece for the history books—and for the military experts, too. Another is that, although it appears to have brought the campaign in this theatre to a close, the war still continues, and none of us can tell what may happen to him yet. With this in mind, your Commander has pointed out that knowledge carried in a number of heads has a better chance of survival than if it is restricted to two or three, and suggested that I. who am in a better position to give the account than anyone else should speak to you collectively. This I am not only honoured but glad to do for it seems to me important

that it should be known that our station fell to a new technique of warfare—an attack by dead men."

He paused to regard the faces about him and then went on :

" What you call in English the booby-trap—something which is set to operate after a man has left it or is dead ; a kind of blind vengeance by which he hopes to do some damage still—that is nothing new ; it is one would imagine, as old as war itself. But a means by which dead men can not only launch, but can press home an attack—that, I think, is new indeed. Nor do I yet see where such a development may lead."

He paused again, and remained so long looking at the table in front of him that some of his audience fidgetted. The movement caught his attention, and he looked up.

" I will start by saying that, to the best of my knowledge, all life that still exists upon the moon is now gathered here, in your Dome.

" Now, how did this come about ? You are no doubt aware in outline of the first stages. We and the American Station opened our bombardments simultaneously. Neither of us attacked the other. Our orders were to disregard the American Station, and give priority to launching our Earth-bound missiles. I have no doubt that there orders were similarly to disregard us. This situation persisted until, of our heavy missiles, only the strategic reserve remained. It might well have continued longer had not the Americans, with a light missile, destroyed our incoming supply-rocket. Upon this, I requested, and received, permission to attack the American Station, for we had a second supply-rocket already on the way, and hoped to save it from the same fate.

" As you know, the use of heavy, ground-to-ground missiles is not practicable here, nor would an attempt to use our small reserve for such a purpose have been permitted. We therefore retaliated with light missiles on high-angle setting to clear the mountains round the Copernicus crater. Again as you will know, the low gravity here gives a wide margin of error for such an attempt, and our missiles were ineffective. The Americans attempted to reply with similiar missiles, and they, too, were highly inaccurate. There was slight damage to one of our launching ramps, but no more.

" Then, one of our Satellite Stations which chanced to be in a favourable position dispatched two heavy missiles. The first

they reported as being two miles off target ; for the second, they claimed a direct hit. This would seem to be a valid claim, for the American Station ceased at once to communicate, and has shown no sign of life since.

" A reprisal attack on our own Station for the American Satellite was to be expected, and it came in the form of one heavy missile which landed within a mile of us. Our chief damage was fractures in the walls of the upper chambers, causing a considerable air-leakage. We had to close them off with bulkheads while we sent men in spacesuits to caulk the larger fissures and spray the walls and roofs with plastic sealing compound. The area of damage was extensive, and the work was hampered by falls from the roof, so that I decided to remain incommunicado, in the hope of attracting no more missiles until we had stopped the leaks. It was to be hoped, too, that now the Satellites had been brought into the action ours might succeed in crippling the American with their wasps by the time we had made good."

" Wasps ?" somebody interrupted.

" You haven't heard of them ? I'm surprised. However, it can do no harm now. They are very small missiles, used in a spread-out flock. A Satellite can easily meet one, or several, ordinary missiles with counter-missiles and explode them at a safe distance, but with missiles that come to the attack like a shoal of fish, defence is difficult, and some will always get through—or so it is claimed."

" And did they, General ?" Troon asked. He gave no indication of knowing that the British Satellite which his father had helped to construct, was disabled, and nothing had been heard from the American Satellite since the second day of hostilities."

The General shook his head.

" I cannot say. By the time we had our leaks repaired and our mast up again, there was a message from H.Q. saying that it had lost touch with our Satellites . . . "

His earlier formality had eased, and he went on more easily, as a man telling his story.

" We thought then that we had, as you say, come through. But it was not yet certain that there would be no further attack, or that more cracks in the roof might not open, so we kept our suits handy. That was very fortunate for some of us.

" Five earth-days ago—that is four whole days after the American Station was hit—the man on television watch thought that he caught a glimpse of something moving among the rocks on the crater floor to the north of us. It seemed improbable, but he held the masthead scanner on the area, and presently he caught another movement—something swiftly crossing a gap between two rocks—and he reported it. The Duty-Officer watched, too, and soon he also caught a snatch of movement, but it occurred too rapidly for him to be sure what it was. They switched in a telephoto lens, but it reduced the field of view, and showed them nothing but rocks, so they went back to the normal lens just in time to see what looked like a smooth rock appear from the cover of one ordinary jagged rock, and slither behind another. At this point the Duty-Officer reported to me, and I went down to join them in the main control-chamber.

" We alerted the guard to stand by with rocket-tubes, and went on watching. The thing kept on dodging about, suddenly shooting out of a black shadow, or from behind a rock, and vanishing again. There was no doubt that it was gradually coming closer, but it seemed in no hurry to reach us.

" Somebody said : ' I think there must be two of them.' The appearances and disappearances were so erratic, that we could not be sure. We tried radar on it, but at that angle and among so much broken rock, it was practically useless. We could only wait for the thing to reach more open ground, and show itself more clearly.

" Then there was a report from the guard of another moving object, somewhat further west. We turned the scanner that way, and observed that there was indeed a similiar something there that dodged about among the rocks and shadows in the same, unidentifiable way.

" Over an hour went by before the first of them reached the more open ground at a range of eleven kilometres from us. But even then it was some time before we could get a real idea of it—for it was too small on the normal lens to show detail, and too erratic for the telephoto to follow it. Before long, however, there were three of the things all skirmishing wildly about the crater floor with sudden rushes forwards, sideways, any direction, even back, and never staying still long enough for us to make them out clearly in the crosslight.

" If our armament had included short-range bombardment missiles, we should have used them at the first sighting, but they were not a weapon that had seemed reasonable equipment for a Moon-Station, and we could only wait for the things to come within practicable range of the portable rocket-tubes.

" Meanwhile they continued to dash hither and thither zig-zagging madly about the crater floor. It was uncanny. They made us think of huge spiders rushing back and forth, but they never froze as spiders do ; their pauses were no more than momentary, and then they were off again ; and one never could tell which way it would be. They must have been travelling quite thirty or forty metres to make an advance of one metre, and they were in an extended line so that we could only get one, or perhaps, for a moment, two of them, on the screen at the same time.

" However, during the time it took them to cover the next two kilos we were able to get better views and impressions of them. In appearance they were simple. Take an egg, pull it out to double its length, and that is the shape of the body. Put long axles through it near the ends, and fasten tall, wide-tyred wheels on them—tall enough to give it a good ground clearance. Mount the wheels so that they have a hundred and eighty degrees of traverse—that is, so that the treads can be turned parallel with the lines of the axle, whether the wheels themselves are before or behind the axle. And you have this machine. It can move in any direction—or spin in one spot, if you want it to. Not, perhaps, very difficult once you have thought of the idea. Give it a motor in each wheel, and an electronic control to keep it from hitting obstacles. That is not very difficult, either.

" What is not so clear, is how you direct it. It was not, very clearly, by dead reckoning. We thought it might be responding to our radio, or to the rotation of radar scanner, or to the movements of our television pickup, but we tested all those, and even switched off our screen for some minutes, but the guard outside reported no effect. Nor was it detecting and seeking any of our electric motors ; we stopped every one of them for a full minute, without emanation result. It was just possible that the things were picking up an emanation from our power-pile but that was well shielded, and we already had decoy radiators to deflect any missiles that might try that. I myself think it probable that they were able to detect, and to respond to, the inevitable slight rise of temperature in the

Station area. If so, there was nothing we could have done about it."

The General shrugged, shook his head, and frowned. He went on :

" What we faced, in essence, was a seeking missile, on wheels. Not difficult to construct, though scarcely worth attempting for use in a simple form—too easy a target for the defence. So what those Americans had done, the frightening thing they had done, was to introduce a random element. You see what I mean ? They had put in this random stage, and somehow filtered the control through it . . . "

He thought again for a moment.

" Machines do not live, so they cannot be intelligent. Nevertheless, it is in the nature of machines to be logical. The conception of an illogical machine seems to be a contradiction in terms. If you deliberately produce such a thing, what have you ? Something that never existed in nature. Something alien. What you have done is to produce madness without mind. You have made unreason animate, and set it loose. That is a very frightening thing to think about . . .

" But here, among these not-quite-machines that were scuttering about the crater floor like water-boatmen on a pond, there was a controlling thread of ultimate purpose running through the artificial madness. Their immediate actions were unpredictable, insane, but their final intention was just as sure as the bomb that each was carrying in its metal belly. Think of a maniac, a gibbering idiot, with one single continuing thread of intention—to murder . . .

" That is what those machines were. And they kept on coming with short, or very short, or not so short crazy rushes. They darted and dodged forward, sideways, backwards, obliqely, straight, or in a curve ; one never knew which would be next—only that, after a dozen moves, they would be just a little closer.

" Our rocket men opened fire about five kilos. A sheer waste, of course ; one could as well have hoped to hit a fly on the wing with a peashooter. Mines might have stopped them —if they did not have detectors—but who would have sanctioned the use of valuable rocket-space to bring mines to the moon ? All our men could do was to hope for a lucky shot. Occasionally one of them would be hidden for a moment or two by the burst of an explosion, but it always reappeared out

of the dust, dodging as crazily as ever, Our eyes and heads ached with the strain of trying to follow them on the screen, and to detect some pattern in their movements—I'm sure myself that no pattern existed.

" At three kilos the men were doing no better with their shooting, and were starting to show signs of panic. I decided that at two kilos we would withdraw the men and get them below.

" The things kept on coming, as madly as ever. I tell you, I have never seen anything that frightened me more. There was the dervish-like quality of the random madness, and yet the known deadly purpose. And all the time there was the suggestion of huge, scuttering insects so that it was difficult not to think of them as being in some alien way alive . . .

" Some of the rocket bursts did succeed in peppering them with fragments now and then, but they were not harmed. As they approached the two kilo line I told Colonel Zinochek, here, to withdraw the patrol. He picked up the microphone to speak, and at that moment one of the things hit a rocket bomb. We saw it run right into the bomb.

" The explosion threw it off the ground, and it came down on its back. The diameter of the wheels was large enough to allow it to run upside down. It actually began to do so, but then there was a great glare, and the screen went blank.

" Even at our depth the floor of the chamber lifted under us, and cracks ran up two of the walls.

" I switched on the general address system. It was still live, but I could not tell how much of the Station it was reaching. I gave orders for everyone to put on spacesuits, and stand by for further instructions.

" One could hope that the explosion of one machine might have set off the others, but we could not tell. They might have been shielded at the moment, or, even if they were not, either, or both of them might have survived. Without air there is not the usual kind of blast and pressure-wave ; there is flying debris, of course, but what else ? So little work has been done on the precise effects of explosions here. Our mast had gone again so that we were without radar, or television. We had no means of telling whether the danger was over, or whether the machines were still scurrying about the crater floor like mad spiders ; still working closer . . .

" If they were, we reckoned that it should take them about thirty-five minutes to reach us, at their former rate.

" No half-hour in my life has been as long as that one. Once we had our helmets on, and the intercoms were working, we did our best to learn what the damage was. It appeared to be fairly extensive in the upper levels, for there were few replies from there. I ordered all who could to make their way down to the lowest levels, and to stay there.

" Then there was absolutely nothing we could do but wait. . . and wait . . . and wait . . . Wondering if the things were indeed still skirmishing outside, and watching the minute-hand crawl round . . .

" It took them—or it—exactly thirty-one minutes . . .

" The whole place bounced, and threw me off my feet. I had a glimpse of cracks opening in the roof and walls, then the light went out, and something fell on me . . .

" I don't need to go into details about the rest. Four of us in the control-chamber were left alive, and five in the level immediately above. None of us would have survived had the rock had earth-weight—nor should we have been able to shift it to clear a way to the emergency exit.

" Even so, it took us four earth-days to get our way through the collapsed passages. All the Station's air was gone, of course, and we had to do it on dead men's air-bottles, and emergency rations—as long as the rations lasted—and with only one two-man inflatable chamber between us to eat in.

" The emergency exit was of course, at some distance from the main entrance, but even so, a part of the roof of the terminal chamber had fallen in and wrecked one of the platforms there ; fortunately the other two were scarcely damaged. The outer doors of the airlock were at the base of a cliff, and though the cliff itself had been a shield from the direct force of the explosion, a quantity of debris had fallen in front of the doors so that we had to blast them open. That gave us a big enough opening to sail the platforms through, and avoid any radio-active contamination—and, I think, by reason of the airlock's position, any serious exposure to radiation ourselves."

He looked round at the group of officers.

" It has been chivalrous of you, gentlemen, to take us in. Let me, in return, assure you that we have no intention of making ourselves a liability. On the contrary, There is a large food store in our Station. If the cisterns have remained intact, there is water ; also there are air-regeneration supplies.

But we need drilling gear to get at these things. If, when my men are rested, you can let us have the necessary gear, we shall be able to add very considerably to your reserves here."

He turned to the window, and looked at the shining segment of Earth.

"—And that may be as well, for I have a feeling that we may be going to need all the supplies we can collect."

When the meeting was broken up, Troon took the General and his aide along to his own office. He let them seat themselves, and light cigarettes before he said :

" As you will understand, General, we are not equipped here to deal with prisoners of war. I do not know your men. Our Station is vulnerable. What guarantees can you give against sabotage ?"

" Sabotage !" exclaimed the General. " Why should there be sabotage ? My men are all perfectly sane, I assure you. They are as well aware as I am that if anything should happen to this Station it must be the end of all of us."

" But might there not be one—well, let us call him a selflessly patriotic man—who might consider it his duty to wreck this Station, even at the cost of his own life ?"

" I think not. My command was staffed by picked, intelligent men. They are well aware that no one is going to *win* this war now. So that the object has become to survive it."

" But, General, are you not overlooking the fact that we, here, are still a fighting unit—the only one left in this theatre of war."

The General's eyebrows rose a little. He pondered Troon for a moment, and then smiled slightly.

" I see. I have been a little puzzled. Your officers are still under that impression ?"

Troon leaned forward to tap his cigarette ash into a tray.

" Perhaps I don't quite understand you, General."

" Don't you, Commander ? I am speaking of your value as a fighting unit."

Their eyes met steadily for some seconds. Troon shrugged.

" How high would *you* place our value as a fighting unit, General ?"

General Budorieff shook his head gently.

" Not very high, I am afraid, Commander," he said, and then, with a touch of apology in his manner, continued : " Before the last attack on our Station you had dispatched nine

medium missiles. I do not know whether you have fired any more since then, therefore the total striking power at your disposal may be either three medium missiles—or none at all."

Troon turned, and looked out of the window towards the camouflaged missile-pits. His voice shook a little as he asked:

" May I inquire how long you have known this, General ?"

Gently the General said :

" About six months."

Troon put his hand over his eyes. For a minute or two no-one spoke. At length the General said :

" Will you permit me to extend my sincere congratulations, Commander Troon ? You must have played it magnificently."

Troon, looking up, saw that he was genuine.

" I shall have to tell them now," he said. " It is going to hurt their pride. They thought of everything but that."

" It would, I think, be better to tell them now, " agreed Budorieff, " but is not necessary for them to know that *we* knew."

" Thank you, General. That will at least do something to diminish the farcical element for them."

" Do not take it too hard, Commander. Bluff and counter-bluff are, after all, an important part of strategy—and to have maintained such a bluff as that for almost twenty years is, if I may say so, masterly. I have been told that our people simply refused to believe our agents' first reports on it.

" Besides, what was our chief purpose here—yours, mine, and the Americans' ? Not to *make* war. We were a threat which, it was hoped, would help to prevent war—and one fancies that all of us here did do something to postpone it. Once fighting was allowed to start, it could make really very little difference whether our missiles were added to the general destruction or not. We have all known in our hearts that this war, if it should come, would not be a kind that anyone could win.

" For my part, I was greatly relieved when I received this report on your armament. The thought that I might one day be required to destroy your quite defenceless Station was not pleasant. And consider how it turns out. It is simply because your weapons were a bluff that your Station still exists : and because it exists, that we still have a foothold on the moon. That is important."

Troon looked up.

" You think so, too, General ? Not very many people do."

" There are not, at any time, many people who have—what do you call it in English ?—Divine discontent ? Vision ? Most men like to be settled among their familiar things, with a notice on the door : ' Do Not Disturb.' They would still have that notice hanging outside their caves if it were not for the few discontented men. Therefore it is *important* that we are still here, *important* that we do not lose our gains. You understand ?"

Troon nodded. He smiled faintly.

" I understand, General. I understand very well. Why did I fight for a Moon Station ? Why did I come here, and stay here ? To hold on to it so that one day I could say to a younger man : ' Here it is. We've got you this far. Now go ahead. The stars are before you . . . ' Yes, I understand. But what I have had to wonder lately is whether the time will ever come for me to say it . . . "

General Budorieff nodded. He looked out, long and speculatively at the pearl-blue Earth.

" Will there be any rocket-ships left ? Will there be anyone left to bring them ?" he murmured.

Troon looked in the same direction. With the pale earth-light shining in his face he felt a sudden conviction.

" They'll come," he said. " Some of them will hear the thin gnat-voices crying . . . They'll have to come . . . And, one day, they'll go on . . . "

John Wyndham.

The next Troon Story, " The Thin Gnat-Voices " will appear next month

Mr. Silverberg's contribution this month is concerned with that ever-fascinating subject Time, but in this particular instance he resolves his entire plot on the paradox of Time itself. There doesn't seem to be any answer to the problem he has evolved, either.

ABSOLUTELY INFLEXIBLE

By Robert Silverberg

The detector over in one corner of Mahler's little office gleamed a soft red. With a weary gesture of his hand he drew it to the attention of the sad-eyed time-jumper who sat slouched glumly across the desk from him, looking cramped and uncomfortable in his bulky spacesuit.

" You see," Mahler said, tapping his desk. " They've just found another one. We're constantly bombarded with you people. When you get to the Moon, you'll find a whole Dome full of them. I've sent over four thousand there myself since I took over the Bureau. And that was over eight years ago—in twenty-seven twenty-six, to be exact. An average of five hundred a year. Hardly a day goes by without someone dropping in on us."

" And not one has been set free," the time-jumper said. " Every time-traveller who's come here has been packed off to the Moon immediately. Every single one."

" Every one," Mahler agreed. He peered through the thick shielding, trying to see what sort of man was hidden inside the spacesuit.

Mahler often wondered about the men he condemned so easily to the Moon. This one was small of stature, with wispy locks of white hair pasted to his high forehead by perspiration.

Evidently he had been a scientist, a respected man of his time, perhaps a happy father—although very few of the time-jumpers were family men. Perhaps he possessed some bit of scientific knowledge which would be invaluable to the 28th Century. Or perhaps he didn't. It scarcely mattered. Like all the rest, he would have to be sent to the Moon, to live out his remaining days under the gruelling, primitive conditions of the Dome.

" Don't you think that's a little cruel ?" the other asked. " I came here with no malice, no intent to harm anyone. I'm simply a scientific observer from the past. Driven by curiosity, I took the jump. I never expected that I'd be walking into life imprisonment."

" I'm sorry," Mahler said, getting up.

He decided to end the interview then and there. He had to get rid of this jumper because there was another space-traveller coming right up. Some days they came thick and fast, and this looked like one of the really bad days. But the efficient mechanical tracers never missed a jumper.

" But can't I live on Earth and stay in this spacesuit ?" the man asked, panicky now that he saw his interview with Mahler was coming to an end. " That way I'd be sealed off from contact at all times."

" Please don't make this any harder than it is for me," Mahler said. "I've explained to you why we must be absolutely inflexible. There cannot—must not—be any exceptions. Two centuries have now passed since the last outbreak of disease on Earth. So naturally we've lost most of the resistance acquired over the countless generations when disease was rampant. I'm risking my life coming so close to you even with the spacesuit sealing you off."

Mahler signalled to the tall, powerful guards who were waiting in the corridor, looking like huge, heavily armoured beetles in the casings that protected them from infection. This was always the worst moment.

" Look," Mahler said, frowning with impatience. " You're a walking death-trap. You probably carry enough disease germs to kill half the world. Even a cold—a *common* cold—would wipe out millions now. Acquired immunity to disease has simply vanished over the past two centuries. It's no longer needed, with all diseases conquered. But you time-travellers show up loaded with potentialities for all the diseaes that once

wiped out whole populations. And we can't risk having you stay here with them."

"But I'd—"

"I know. You'd swear by all that's holy to you or to me that you'd never leave the confines of the spacesuit. Sorry. The word of the most honourable man doesn't carry any weight against the safety of two billion human lives. We can't take the slightest risk by letting you stay on Earth.

"I know. It's unfair, it's cruel—it's anything else you may choose to call it. You had no idea you would walk into a situation like this. Well, I feel sorry for you. But you knew you were going on a one-way trip to the future, and would be subject to whatever that future might decide to do with you. You knew that you could not possibly return in time to your own age."

Mahler began to tidy up the papers on his desk with a brusqueness that signalled finality. "I'm terribly sorry, but you'll just have to try to understand our point of view," he said. "We're frightened to death by your very presence here. We can't allow you to roam Earth, even in a spacesuit. No. There's nothing for you but the Moon. I have to be absolutely inflexible. Take him away," he said, gesturing to the guards.

They advanced on the little man and began gently to ease him out of Mahler's office.

Mahler sank gratefully into the pneumochair and sprayed his throat with larnygogel. These long speeches always left him exhausted, and now his throat felt raw and scraped. *Someday I'll get throat cancer from all this talking*, Mahler thought. *And that'll mean the nuisance of an operation. But if I don't do this job, someone else will have to.*

Mahler heard the protesting screams of the time-jumper impassively. In the beginning he had been ready to resign on first witnessing the inevitable frenzied reaction of jumper after jumper as the guards dragged then away. But eight years had hardened him.

They had given him the job because he had been a hard man in the first place. It was a job that called for a hard man. Condrin, his predecessor, had not been the same sort of man at all, and because of his tragic weakness Condrin was now himself on the Moon. He had weakened after heading the Bureau a year, and had let a jumper go.

The jumper had promised to secrete himself at the tip of Antarctica and Condrin, thinking that Antarctica would be as safe as the Moon, had foolishly released him. Right after that they had called Mahler in. In eight years Mahler had sent four thousand men to the Moon. The first had been the runaway jumper—intercepted in Buenos Aires after he had left a trail of disease down the hemisphere from Appalachia to the Argentine Protectorate. The second had been Condrin.

It was getting to be a tiresome job, Mahler thought. But he was proud to hold it and be in a position to save millions of lives. It took a strong man to do what he was doing. He leaned back and awaited the arrival of the next jumper.

Instead, the door slid smoothly open, and the burly body of Dr. Fournet, the Bureau's chief medical man, broke the photo-electric beam. Mahler glanced up. Fournet carried a time-rig dangling from our hand.

" I took this away from our latest customer," Fournet said. " He told the medic who examined him that it was a two-way rig, and I thought you'd better be the first to look it over."

Mahler came to full attention quickly. A two-way rig? Unlikely, he thought. But if it was true it would mean the end of the dreary jumper-prison on the Moon. Only how could a two-way rig exist? He reached out and took the rig from Fournet.

" It seems to be a conventional twenty-fourth century type," he said.

" But notice the extra dial," Fournet said frowning.

Mahler peered and nodded. " Yes. It *seems* to be a two-way rig, all right. But how can we test it? And it's not really very probable," he added. " Why should a two-way rig suddenly show up from the twenty-fourth Century, when no other traveller has one? We don't even have two-way time-travel ourselves, and our scientists insist that we never will.

" Still," he mused, " it's a nice thing to dream about. We'll have to study this a little more closely. But I don't seriously think it will work. Bring the jumper in, will you?"

As Fournet turned to signal the guards, Mahler asked him, " What's the man's medical report, by the way?"

" From here to here," Fournet said sombrely. " You name it, he's carrying it. Better get him shipped off to the Moon as quickly as you can. I won't feel safe until he's off this planet."

The big medic waved to the guards.

Mahler smiled. Fournet's over-cautiousness was proverbial in the Bureau. Even if a jumper were to show up completely free from disease, Fournet would probably insist that he was carrying everything from asthma to leprosy.

The guards brought the jumper into Mahler's office. He was fairly tall, Mahler saw—and quite young. It was difficult to see his face clearly through the dim plate of the protective spacesuit which all jumpers were compelled to wear. But Mahler could tell that the young time-traveller's face had much of the lean, hard look of Mahler's own. It was just possible that the jumper's eyes had widened in surprise as he entered the office, but Mahler could not be sure.

" I never dreamed I'd find *you* here," the jumper said. The transmitter of the spacesuit brought the young man's voice over deeply and resonantly. " Your name is Mahler, isn't it ?"

" That's right," Mahler conceded.

" To go all these years—and find *you*. Talk about wild improbabilities !"

Mahler ignored him, declining to take up the challenge. He had found it to be good practice never to let a captured jumper get the upper hand in conversation. His standard procedure was firmly to explain to the jumper just why it was imperative for him to be sent to the Moon, and then to summon the guards as quickly as possible.

" You say this is a two-way time-rig ?" Mahler asked, holding up the flimsy-looking piece of equipment.

" That's right," the other agreed. " It works both ways. If you pressed the button you'd go straight back to the year two thousand, three hundred and sixty, or thereabouts."

" Did you build it ?"

" Me ? No, hardly," said the jumper. " I found it. It's a long story and I don't have time to tell it now. In fact, if I tried to tell it I'd only make things ten times worse than they are. No. Let's get this over with as quickly as we can, shall we ? I know I don't stand much of a chance with you, and I'd just as soon make it quick."

" You know, of course, that this is a world without disease—" Mahler began sonorously.

" And that you think I'm carrying enough germs of different sorts to wipe out the whole world. And therefore you have to be absolutely inflexible with me. All right. I won't try to argue with you. Which way is the Moon ?"

Absolutely inflexible. The phrase Mahler had used so many times, the phrase that summed him up so neatly ! He chuckled to himself. Some of the younger technicians must have tipped the jumper off about the usual procedure, and the jumper had resigned himself to going peacefully, without bothering to plead. It was just as well.

Absolutely inflexible.

Yes, Mahler thought, the words fitted him well. He was becoming a stereotype in the Bureau. Perhaps he was the only Bureau Chief who had never relented and let a jumper go. Probably all of the others, bowed under the weight of hordes of curious men flooding in from the past, had finally cracked and taken the risk.

But not Mahler—not Absolutely Inflexible Mahler. He took pride in the deep responsibility that rode on his shoulders, and had no intention of evading a sacred trust. His job was to find the jumpers and get them off Earth as quickly and as efficiently as possible. Every single one. It was a task that required relentless inflexibility.

" This makes my job much easier," Mahler said. "I'm glad I won't have to convince you that I am simply doing my duty."

" Not at all," the other said. " I understand. I won't even waste my breath. The task you must carry out is understandable, and I cannot hope to make you change your mind." He turned to the guards. " I'm ready. Take me away."

Mahler gestured to them, and they led the jumper away. Amazed, Mahler watched the retreating figure, studying him until he could no longer be seen.

If they were all like that, Mahler thought. *I could have got to like that one. He was a sensible man—one of the few. He knew he was beaten, and he didn't try to argue in the face of absolute necessity. It's too bad he had to go. He's the kind of man I'd like to find more often these days. But I mustn't feel sympathy. That would be unwise.*

Mahler had succeeded as an administrator only because he had managed to suppress any sympathy for the unfortunates he had been compelled to condemn. Had there been any other place to send them—back to their own time, preferably —he would have been the first to urge abolition of the Moon prison. But, with only one course of action open to him he performed his job efficiently and automatically.

He picked up the jumper's time-rig and examined it. A two-way rig would be the solution, of course. As soon as the jumper arrived, a new and better policy would be in force, turning him around and sending him back. They'd get the idea quickly enough. Mahler found himself wishing it could be so ; he often wondered what the jumpers stranded on the Moon must think of him.

A two-way rig would change the world so completely that its implications would be staggering. With men able to move at will backward and forward in time the past, present, and future would blend into one broad and shining highway. It was impossible to conceive of the world as it might be, with free passage in either direction.

But even as Mahler fondled the confiscated time-rig he realised that something was wrong. In the six centuries since the attainment of time-travel, no one had yet developed a known two-way rig. And an unknown rig was pretty well ruled out. There were no documented reports of visitors from the future and presumably, if such a rig existed, such visitors would have been as numerous as were the jumpers from the past.

So the young man had been lying, Mahler thought with regret. The two-way rig was an utter impossibility. The youth had merely been playing a game with his captors. There *couldn't* be a two-way rig, because the past had never been in any way influenced by the future.

Mahler examined the rig. There were two dials on it—the conventional forward dial and another indicating backward travel. Whoever had prepared the incredible hoax had gone to considerable trouble to document it. *Why* ?

Could it be that the jumper had been telling the truth ? Mahler wished that he could somehow test the rig immediately. There was always the one slim chance that it might actually work, and that he would no longer have to be a rigid dispenser of justice. Absolutely Inflexible Mahler !

He looked at it. As a time machine, it was fairly crude. It made use of the standard distorter pattern, but the dial was the clumsy wide-range 24th-century one. The vernier system, Mahler reflected, had not been introduced until the 25th century.

Mahler peered closer to read the instruction label. PLACE LEFT HAND HERE, it said. He studied it carefully. The ghost of a thought wandered into his mind. He pushed it

aside in horror, but it recurred. It would be so simple. What if he should—

No.

But—

PLACE LEFT HAND HERE.

He reached out tentatively with his left hand.

Be careful now. No sense in being reckless—

PLACE LEFT HAND HERE.

PRESS DIAL.

He placed his left hand lightly on the indicated place. There was a little crackle of electricity. He let go quickly, and started to replace the time-rig when the desk abruptly faded out from under him.

The air was foul and grimy. Mahler wondered what had happened to the Conditioner. Then he looked around.

Huge, grotesque, ugly buildings blocked out most of the sky. There were dark oppressive clouds of smoke overhead, and the harsh screech of an industrial society assailed his ears.

He was in the middle of an immense city, and streams of people were rushing past him at a furious pace. They were all small, stunted creatures, their faces harried, and neurotic. They all had the same despairing, frightened look. It was an expression Mahler had seen many times on the faces of jumpers escaping from an unendurable nightmare world to a more congenial future.

He stared down at the time-rig clutched in his hand, and knew what had happened. The two-way rig !

It meant the end of the Moon prisons. It meant a complete revolution in civilization. But he had no desire to remain in so oppressive and horrible an age a minute longer than was necessary. He reached down to activate the time-rig.

Abruptly someone jolted him from behind and the current of the crowd swept him along. He was struggling desperately to regain control over himself when a hand reached out and gripped the back of his neck.

" Got a card, Hump ?" a harsh voice demanded.

He whirled to face an ugly, squinting-eyed man in a dull-brown uniform.

" Did you hear what I said ? Where's your card, Hump ? Talk up or you get spotted."

Mahler twisted out of the man's grasp and started to jostle his way quickly through the crowd, desiring nothing more

than an opportunity to set the time-rig and get out of this disease-ridden, squalid era forever. As he shoved people out of his way they shouted angrily and tried to trip him, raining blows on his back and shoulders.

" There's a Hump !" someone called. " Spot him !"

The cry became a roar. " Spot him ! Spot him ! Spot him !"

He turned left and went pounding down a side street, and now it was a full-fledged mob that dashed after him, shouting in savage fury.

" Send for the Crimers !" a deep voice boomed. " They'll Spot him !"

A running man caught up to him and in sheer desperation Mahler swung about and let fly with his fists. He heard a dull grunt of pain, but he did not pause in his headlong flight. The unaccustomed exercise was tiring him rapidly.

An open door beckoned, and he hurried swiftly toward it.

An instant later he was inside a small furniture shop and a salesman was advancing toward him. " Can I help you, sir ? The latest models, right here."

" Just leave me alone," Mahler panted, squinting at the time-rig.

The salesman stared uncomprehendingly as Mahler fumbled with the little dial.

There was no vernier. He'd have to chance it and hope to hit the right year. The salesman suddenly screamed and came to life—for reasons Mahler would never understand.

Mahler ignored him and punched the stud viciously.

It was wonderful to step back into the serenity of 28th-Century Appalachia. It was a small wonder so many time-jumpers came to so peaceful an age, Mahler reflected, as he waited for his overworked heart to calm down. Almost anything would be preferable to *back there.*

He looked up and down the quiet street, seeking a Convenience where he could repair the scratches and bruises he had acquired during his brief stay in the past. They would scarcely be able to recognise him at the Bureau in his present battered condition, with one eye nearly closed, and a great livid welt on his cheek.

He sighted one at last and started down the street, only to be brought up short by the sound of a familiar soft mechanical whining. He looked around to see one of the low-running

mechanical tracers of the Bureau purring up the street toward him. It was closely followed by two Bureau guards, clad in their protective casings.

Of course ! He had arrived from the past, and the detectors had recorded his arrival, just as they would have pin-pointed any time-traveller. They never missed.

He turned, and walked toward the guards. He failed to recognise them, but this did not surprise him. The Bureau was a vast and wide ranging organisation, and he knew only a handful of the many guards who customarily accompanied the tracers. It was a pleasant relief to see the tracer. The use of tracers had been instituted during his administration, and he was absolutely sure now that he hadn't returned too early along the time stream.

" Good to see you," he called to the approaching guards. " I had a little accident in the office."

They ignored him, and began methodically to unpack a spacesuit from the storage trunk of the mechanical tracer.

" Never mind talking," one said. " Get into this."

He paled. " But I'm no jumper," he protested. " Hold on a moment, fellows. This is all a terrible mistake. I'm Mahler —head of the Bureau. *Your boss.*"

" Don't play games with us, chum," the taller guard said, while the other forced the spacesuit down over Mahler's shoulders. To his horror, Mahler saw that they did not recognise him at all.

" Suppose you just come peacefully and let the Chief explain everything to you, without any trouble," the short guard said.

" But I am the Chief," Mahler protested. " I was examining a two-way time-rig in my office and accidentally sent myself back to the past. Take this thing off me and I'll show you my identification card. That should convince you."

" Look chum, we don't want to be convinced of anything. Tell it to the Chief, if you like. Now, are you coming—or do we bring you ?"

There was no point, Mahler decided, in trying to prove his identity to the clean-faced young medic who examined him at the Bureau office. To insist on an immediate identification would only add more complications. No. It would be far better to wait until he reached the office of the Chief.

He knew now what had happened. Apparently he had landed somewhere in his own future, shortly after his own death. Someone else had taken over the Bureau, and he, Mahler had been forgotten. He suddenly realised with a little shock that at that very moment his ashes were probably reposing in an urn at the Appalachia Crematorium.

When he got to the Chief of the Bureau, he would simply and calmly explain exactly what had happened and ask for permission to go back ten or twenty or thirty years to the time in which he belonged. Once there, he could turn the two-way rig over to the proper authorities and resume his life from his point of departure. When that happened, the jumpers would no longer be sent to the Moon, and there would be no further need for Inflexible Mahler.

But he suddenly realised, if he'd already done that why was there still a clearance Bureau. An uneasy fear began to grow in him.

" Hurry up and finish that report," Mahler told the medic.

" I don't know what the rush is," the medic complained. " Unless you like it on the Moon."

" Don't worry about me," Mahler said confidently. " If I told you who I am, you'd think twice about—"

" Is this thing your time-rig ?" the medic asked unexpectedly.

" Not really. I mean—yes, yes it is," Mahler said. " And be careful with it. It's the world's only two-way rig."

" Really, now !" said the medic. " Two ways, eh ?"

" Yes. And if you'll take me to your Chief—"

" Just a minute. I'd like to show this to the Head Medic."

In a few moments the medic returned. " All right, we'll go to the Chief now. I'd advise you not to bother arguing with him. You can't win. You should have stayed in your own age."

Two guards appeared and jostled Mahler down the familiar corridor to the brightly-lit little office where he had spent eight years of his life. Eight years on the other side of the fence !

As he approached the room that had once been his office, he carefully planned what he would say to his successor. He would explain the accident first, of course. Then he would establish his identity beyond any possibility of doubt and request permission to use the two-way rig to return to his own time. The Chief would probably be belligerent at first. But he'd quickly enough become furious, and finally amused at the chain of events that had ensnarled Mahler.

And of course, he would make amends, after they had exchanged anecdotes about the job they both held at the same time across a wide gap of years. Mahler vowed that he would never again touch a time machine, once he got back. He would let others undertake the huge job of transmitting the jumpers back to their own eras.

He moved forward and broke the photoelectric beam. The door to the Bureau Chief's office slid open. Behind the desk sat a tall, powerfully built man with hard grey eyes.

Me !

Through the dim plate of the spacesuit into which he had been stuffed, Mahler stared in stunned horror at the man behind the desk. It was impossible for him to doubt that he was gazing at Inflexible Mahler, the man who had sent four thousand men to the Moon, without exception, in the unbending pursuit of his duty.

And if he's Mahler—

Who am I ?

Suddenly Mahler saw the insane circle complete. He recalled the jumper, the firm, deep-voiced, unafraid time-jumper who had arrived claiming to have a two-way rig and who had marched off to the Moon without arguing. Now Mahler knew who that strange jumper was.

But how did the cycle start ? Where had the two-way rig come from in the first place ? He had gone to the past to bring it to the present to take it to the past to—

His head swam. There was no way out. He looked at the man behind the desk and began to walk slowly toward him, feeling a wall of circumstance growing up around him, while in frustration, he tried impotently to beat his way out.

It was utterly pointless to argue. Not with Absolutely Inflexible Mahler. It would just be a waste of breath. The wheel had come full circle, and he was as good as on the Moon already. He looked at the man behind the desk with a new, strange light in his eyes.

" I never dreamed I'd find you here," the jumper said. The transmitter of the spacesuit brought the jumper's voice over deeply and resonantly.

Robert Silverberg

John Brody's latest contribution is a novel approach to the subject of mutations. In this story, the subject matter is twice removed from that of the normal story—a mutation of a mutation. And somewhere at the bottom of the heap are the remnants of homo sapiens.

RING-SIDE SEAT

By John Brody

I knew that Carne was scanning the black fellows' minds as they filed forward towards the sterilizer unit. All the same, I kept one fist on the butt of my pistol and two eyes on the line. I'd seen negroes go round the bend too often to take chances.

I'd worked with Carne before and I knew his reactions were lightning fast. In so far as any normal human had reached an understanding with one of the so-called ' supermen,' Carne and I understood each other. At least he accorded me the doubtful honour of not probing my mind and in return I gave him a degree of loyalty, in our work, that had become a rarity.

He looked at me across the lead shielding of the generator cabinet and yawned.

" How many more ?" he asked.

" Another hundred today," I answered. " We should finish this township tomorrow."

" Thank the Lord for that," he said. " For two pins I'd let you finish the job, Joe."

" This is one job you supermen can't leave to others," I said. " I'm not saying we wouldn't do it as well as we do all the other jobs you leave to us. But you just daren't take the risk, eh ?"

He looked away. I didn't have to be telepathic to know what he was thinking.

The sterilisation programme of normals had been going on a long time now. For ten generations or more. There had been no hitches, no unpleasantness. We normals had learned our lesson three centuries back in the last Pogram. There was no fight left in us and if we were told to sterilise our fellows, well we'd go ahead and do it according to instructions.

All the same, when you're planning to reduce the world population of normals to zero you can't risk the carefully calculated schedules of Population Control by handing the actual field work over to normals. That's why there's always a superman present when sterilisation is in progress, even though these ' gifted ' mortals hate having to really get out on the ground on a dull, routine and seemingly endless job.

I looked down the line. The end was in sight now, and beyond the last black fellow stretched the sun-baked clay as far as the white concrete walls of the township.

Not that the blacks had a clue as to what it was all about. They were miners from the Rhodesian copper-belt and had purposely been kept uneducated. To them it was just white man's magic, filing between the two cabinets to order. They wouldn't have understood what it was all about even if they had been told that each of them was getting a shot of hard radiation that would prevent any further propagation of the species.

Mind you, the supermen had the thing calculated to a nicety. A random selection of blacks would be left out of the line so that the population of this district would taper off gradually over four or five generations. There would always be just enough youngsters coming along to keep the old folk comfortable. Nobody suffered any discomfort as a result of the programme.

All the same it was genocide, however you liked to dress it up. I doubt if a single inhabitant of the British Isles had lacked for worldly wants during the five generations it had taken to eliminate them from the sum total of normals. Nevertheless the islands were now inhabited by a scattered population of supermen in their hunting lodges, while grass grew in the streets of the few cities that had been left after the supermen struck back in the Last Pogram.

I looked along the line of negroes. Sweat glistening on their velvet skins as they stepped forward slowly towards the cabinets. I looked at the tenth man along, a big fellow, just reaching physical maturity. As fine a specimen as I've ever seen, and I've lived in the black sections all my life, as a district officer, son of a district officer.

Maybe we normals do possess a seventh sense. Maybe this intuition is more than the 'inspired guesswork' we call it when our women claim they have it.

Anyway I looked at that big fellow and my fingers tensed on my pistol. I glanced swiftly at Carne—and I saw he was puzzled.

The superman had been ceaselessly scanning the line. I knew that from old experience. He'd leave that peculiar mind of his open to danger signals, and send a sort of mental radar probe up and down the line, even though he wasn't actually listening in on their thoughts.

And now he was puzzled. I saw his eyes fix on the big fellow, the skin crinkling at the corners of his brows. Well, if the negro had any plans, Carne would know them now. All the same I didn't relax, but kept the old finger crooked round the hair trigger of my Improved Colt Mk XVIII.

The big chap moved up to fifth place and all the time his eyes were staring so hard at the cabinets that I could see the whites of the balls all round them.

And then he leapt !

Like a panther's spring, he took off from a standing start. He sure was magnificent, for he cleared the lead barrier as though it didn't exist, and fell full on Carne, his fingers like talons groping for the superman's wind-pipe !

I'm pretty quick too, when it comes to action. My left hand knocked up the emergency switch that cut out the radiation even as my right brought the pistol clear of its holster.

But the two men, white and black, rolled in the dust, a mess of sprawling arms and legs. I daren't risk a shot for fear of killing Carne.

I stepped closer, trying to grab a chance to wing the black. Out of the corner of my eye I saw that the entire gang of negroes had fled in one black cloud towards the safety of the concrete walls a quarter of a mile away. Including, incidentally my two so-called native policeman !

Carne was no mean fighter, but that was only to be expected as his favourite past-time was mind-reading carnivore. All the same, he was having the worst of it.

The black had him under, and presented his broad, sweating back for my pistol. I lifted it, still afraid to fire for fear that the heavy reaction-slug might go right through him before exploding. It would be more than my own life was worth to kill Carne as well as his attacker.

But Carne called up some wrestling trick and hurled the negro clear, at the same instant breaking the ferocious hold on his wind-pipe.

" Don't kill him !" he bawled. " I want him alive ! Wing him but don't kill . . ."

They were locked together again, but this time I saw my chance. Reversing the Colt, I smashed a glancing blow to the wool-covered skull and had the satisfaction of seeing the negro slump forward. Carne wriggled out from under him, and climbed slowly to his feet, fingering his throat carefully.

" That was a near thing," he said through dust-smeared lips. " I was frightened you'd shoot him. I only hope you haven't damaged his brain in some way."

" Heck, no," I said cheerfully. " These fellows have skulls of reinforced concrete. He'll wake up in a minute or two with a splitting headache and a bit more sense knocked into him. How come you didn't see what he was going to do ? I saw you probing him."

As I said, Carne and I have worked together for a long time. I could say things to him that another superman would have me committed for. Come to that, if I hadn't had a genuine liking for Carne I'd have done what any other normal would have done. Let the black tear his throat out and *then* shoot the black in cold blood to cover myself with the powers-that-be.

" I don't know, Joe," he said slowly, still fingering his throat. " I probed all right. Really deep. I just couldn't get anything. A sort of shifting pattern. Not a barrier like some normals can put up—if he had done that I'd have been ready for something."

" Maybe he's just lunatic," I said.

Carne shook his head. " No, there was thought there all right, Joe, coherent, deductive thought. I caught snatches. Like a tri-di film of some sort. Or several films, with bits cut out here and there and worked together. A kaleidoscope of

thoughts. On one level he was sort of analysing the sterilisation cabinets, groping after their purpose. On another level I'll swear he was probing *my* mind. I caught a flash about your pistol, too—but he'd got that weighed up all right.

" It sounds ridiculous but I think he'd been probing me ever since he'd got in line. He must have got a clue about the hard radiation out of my memory processes somewhere, then worked the whole thing out as he was moving forward."

" But why didn't he jump you sooner ?" I queried.

" I don't know. Unless we take the obvious and assume he was just an ordinary ignorant black when he joined the line. In the hours he's been standing there he's learned the whole set-up of civilisation as we know it. By the time he got up to us he was fighting mad."

" Then he's one of you !" I said. " Another blessed superman, Carne. After all, there are just as many black mutants as white, or yellow; for that matter."

Again Carne shook his head. " No, he's not one of us. Of that I'm certain. In all my experience I've never met a mind like that. It sounds crazy but I'll swear he was able to think on several levels at the same time. One level was probing my mind. Another level was analysing what he found. A third, fourth and fifth were integrating the information. A sixth seeing where you fitted into the set-up."

" Oh Lord !" I groaned. " Now I've seen everything. Three-dimensional thinking, Carne."

" Yes," he answered—a shade grimly, I sensed. " Three-dimensional thinking. Non-logical reasoning perhaps."

If I thought it funny, Carne obviously didn't. But now the black was stirring and his long fingers were scrabbling in the dust.

" Anyway, whatever he is, we'd better do something fast," I said. " When he comes round, he may start all over again."

" Give me your gun," Carne commanded. " I want to get him into my plane just as fast as I can. You go on down to the town and pull out the chief. I want all the details about this man. Every detail—take the recorder from the plane on the way. Tell the chief the inspection is over for the day. Then fly out to my place on the Ridge as quickly as you can."

" Can you handle him ?"

Carne nodded. " Now I've got his measure I can handle him. If he starts up again, I'll wing him in the arm or leg. Once I get him to the plane I'll give him a shot of gas to keep him quiet."

All the same I took the precaution of staying with Carne until he had the big fellow packed into the small, fast job he piloted. Not that it turned out to be necessary. All the fight had gone out of the negro and he was as docile as ever I saw one. If what Carne said was true, he must have guessed what the superman was doing when he hit the trigger on the phial of Oblivion, but the black just took several deep breaths as though anxious to get it over, and settled back on the cushions snoring happily.

I couldn't get much out of the native chief. For one thing he was scared stiff of being held responsible for the affair. For another there was precious little to tell.

The black was named M'Gano. His parents herded cattle in a back-o'-beyond valley somewhere in the bush country. M'Gano had spent all his twenty years herding cattle with his father, and that was about all there was to tell.

Yes, M'Gano was rumoured to be a queer case. Always going off by himself. Used to stare at the stars all night. Given to a lot of silence which his fellows put down to lack of brain. In fact the judgement of the negroes on M'Gano was that he was rather simple and not at all inclined to violence.

I got it all down on the small recorder, and went to my plane. It was one of the lumbering, slow machines that the supermen entrusted to normals, and I took off, setting course for Crane's hunting lodge on the Ridge.

I'd been mulling over the situation for several minutes before I really came to any conclusions. Then I threw my head back and laughed !

Yes laughed ! Perhaps the first time a normal has had a real belly laugh since the last Pogram.

For if what Carne said was true, we really had a mutation at last that was something more than a gimmick ! M'Gano was as far ahead of *homo sapiens* as *homo sapiens* had been ahead of the ape. Man could reason, and the ape couldn't. But man was still tied to logical-train reasoning. No man had ever been born—apart from M'Gano—who could think of two things at the same time.

He must reason from A to B, from B to C, and so on. Whatever might go on in his subconscious and unconscious mind, basically he could call only one thought up into the conscious mind at a time. Even an electronic brain was superior to man in so much as it could take into account a number of variables at the same time.

Telepathy had been a gimmick. True, the telepaths had the advantage of normal man because of their power to understand clearly what others were thinking. But their advantage was purely one of communication ; when it came down to thinking—*reasoning*—the supermen were no better than the despised normals. If the progress they had made in the last three hundred years were anything to go by, they were a lot worse. The only thing they had done really well was to put into effect their policy of genocide !

Now we had M'Gano ! A man who would be able to see the answer at the same time as he saw the question. A man who could tackle a problem on fifty different levels, who could weigh an infinite number of variables in the balance of his conscious mind.

No wonder I laughed, for I was thinking about what the supermen had done to *us* and what M'Gano might do to them —if they gave him the chance.

Not that M'Gano stood much chance. I guessed that they'd take M'Gano to one of their centres and probe him. Probe him until they reduced him to a gibbering maniac. For that matter, just as our own ancestors had worked on the first brood of mutants. The supermen were ruthless all right, although I didn't guess then just how ruthless they could be when it came to preserving their own species. I don't think we normals ever went quite so far.

Anyway, it was nothing to me. I was on the touchline, jeering at both sides. My lot were finished but it would be pleasant to know that the bastards who were eliminating us might well go the same way themselves—one day !

Survival of the fittest the supermen had called their policy of population control. Well, who was the fittest know ?

I circled once over Carne's house on the Ridge before landing on the strip five hundred feet below in the valley. I'll say one thing for the supermen, they certainly knew how to live ! The house melted into the slope of coniferous trees, melding with a rocky outcrop. It didn't seem foreign but part of nature, yet more beautiful than nature could contrive.

That was the odd thing about the supermen. Artistically they left us normals standing. Perhaps it was something to do with their ability to go into a huddle of minds, a state of ' perfect understanding ', as you might put it.

Strange that people who could produce such beautiful things could be so utterly ruthless when it served them.

There was an elevator cut through the rock from the landing strip and I was soon standing in the spacious lounge of Carne's home. He was waiting for me, moving restlessly about the room as he listened to my report. I switched on the recorder but he had no patience to listen to the ramblings and evasions of the native chief. He demanded that I summarize all I had heard and when I finished he threw himself on the flow-chair so violently that even its responsive mechanism couldn't catch up with him and adapt its form to his body for several seconds!

" As I thought !" he snapped. " This man's been in the wilds. God knows what he's been thinking about all these years. Trying to puzzle out the whole of creation, I expect. Then suddenly, for the first time he comes up against educated minds—you and me, Joe."

" What's going to happen to him ?" I asked.

" I've been through on the video to Garvin, the Administrator for Africa. He's sending for him some time. Funny, I offered to fly him straight through to Karachi myself and I was told to wait in no uncertain terms. What is more, Joe, I had a feeling that he wasn't as surprised as he ought to have been."

" As if there have been—others ?" I suggested.

He nodded. " You'd think he would have wanted to see M'Gano as soon as he could. But he just told me to hold him here until he sent a plane to pick him up."

" And how is M'Gano ?"

Carne lurched off the flow-chair and began his restless pacing again.

" He's sending out mental distress calls. If his powers of reception are as pronounced as his ability to transmit, I'd suggest he knows more about the matter than I do ! He's a million candlepower beacon when it comes to sending out telepathic thought forms. If there *are* any other of his kind within thousands of miles, they'll pick him up for sure."

" You've locked him up ?" I asked.

" Yes, in the storeroom adjoining my personal hangar. Oh, he's safe enough there, Joe—fifty feet underground and with an armoured steel door between him and the launching ramp."

I knew that Carne kept his rocket plane right under the house in a channel cut into the rock itself. But then it needed no runway as the old craft I was allowed had to have. Presumably M'Gano was cached safe and sound in a rock cave.

Carne fingered a concealed button by the air-flow window and immediately a servant appeared at the door. A servant, not a slave, you'll note, although where the difference was no normal could discern. Civilisation had reverted once again to a slave economy, for no normal slave could ever hope to become a superman master, and all the vapourings about freedom by the masters couldn't prove it otherwise. I was a slave. A responsible, exalted slave with a high standard of living. But basically I was as tied as any slave in Ancient Rome or a latter-day forced labour camp. I was worse off, I suppose, because slaves were encouraged to breed for their masters, while we normals were very, very lucky to be viable. Added to which, a slave could always hope for freedom in the old times, while I had nothing to hope for. True, I was unsterilised but only because the supermen had a black problem on their hands for several generations and they hoped I'd breed them up a nice son to take my place just as I had taken my father's as district officer. Of course, my son might be sterilised by a concealed generator when he went to an area conference—he might be part of a Population Control schedule to reduce the number of district officers as the native population tapered off! I'd be lucky to see grandchildren, My name would die out very soon—but then so would all our names.

Carne gave abrupt impatient orders for a meal for us both, and for a bed to be prepared for me. But when the food slid silently into the room, he wouldn't eat and pushed his chair away from the table.

I read his thoughts by the age-old method we normals used ; by experience, expression, tone of voice, shift of facial muscle. He wanted company. Some of his own kind to commune with. He wanted the strength that came from a communion of minds—the only solace that I envied the supermen.

I ate well. Carne certainly had a skilled technician down below and each course seemed only to whet the appetite for the next. I think then that Carne envied me my appetite as I tucked in. He was going to talk to me, for try as he could he was unable to contact another superman. That wasn't surprising, for unless there was a party of the gilded lilies on safari in the district, there wasn't another mutant within several hundred miles.

He was so distracted that he committed an unpardonable act by probing my thoughts ! I knew the moment he came into my mind, and he caught me just as I was thinking over the predicament of the supermen. I was cynically amused—and then suddenly angry at his intrusion.

" Sorry," he muttered. " Forgive me, Joe. God, how your people hate us."

" We've good cause for hatred," I said angrily, spraying my mouth and hands clean and letting the bottle slip back to the table. " Every unborn child is a curse on you."

" If we hadn't hit back, you'd have wiped us out," he answered. " It was three hundred years ago—and yet it was yesterday. Man and superman cannot live together—there are too many race memories "

I sat back and stared at him as he moved around the room.

" It was yesterday," I pointed out. " The world has stood still since you took over. Before the Last Pogram, man was going to the stars, remember ? Have you forgotten that even before the pograms began, we humble normals had got a rocket to the moon and back. We'd even conquered ourselves—until you came. What have ten generations of supermen done for mankind ?

" Nothing, Carne ! You took over from us. You played around, bettered the inventions we had already discovered, built fancy houses, evolved a way of life that's the epitome of comfort. But your way of life is degenerate. You've lost the drive, the thrust outwards that was the glory of despised *homo sapiens*."

He was on the defensive. " We've given you happy lives, comfort beyond your dreams. Security, health, safety from atom bombs, war and hunger."

" And a billion unborn children call you a liar !" I cried. " How can you know what it is to be one of a dying race ? To know you can never have a son to give you immortality ? Or, if you have a son, to know that he must endure the anguish of sterility when his number comes up on the charts of Population Control ?"

" You speak as though you have always been angels !" he flared at me. " What of the first mutants, eh ? Hounded like rats, torn to pieces by mobs. Locked in madhouses. Our ancestors survived only because they were fitter than you. Now it is your time to disappear along with the pterodactyls and kiwis."

" Is it ?" I asked. " Or is it yours, Carne ? Is M'Gano to inherit the world ? Because you know as well as I do that if he represents a species that does not have to think logically, then he is a thousand times more fitted to be master than you supermen with your paltry gift of silent speech !"

He stopped his pacing and stiffened. I heard too the lowering sound of a plane circling above the ridge. We both went across to the air-flow window space and stared down across the valley.

Already his staff had switched on the landing lights and brought the approach control into action. We saw lights speeding across the velvet blue of space, and then a silver transport plane shimmer to a halt in the lights of the strip. Even at the distance we could see at least fifty or more uniformed figures leap from the plane and fall in alongside.

" Police !" I said. " From Bulawayo. The Administrator's sent you an armed guard for M'Gano."

" I don't want a guard !" Carne cried. " I want the man off the place. I want him at Karachi or Sydney. Anywhere but here !"

" He's frightening, isn't he ?" I asked, goading him. " You know how our people must have felt when they first tumbled to the mutants ?"

I doubt if he heard. He was going to the elevator, undecided what to do. But before he could reach for the control button the door slid open and a smartly dressed officer stepped into the hall.

" Captain Harris !" the officer reported. " I've been sent to guard a dangerous lunatic you have here, sir."

" Lunatic ?" Carne queried.

Harris turned and gave me a flutter of a wink. " That's what I was told—officially," he said. " Actually I saw the message from Karachi. It was sent in clear and the whole centre was buzzing with the news that some new mutant's turned up here !"

Carne went pale. He handed Harris over to his steward, speaking in a low voice—almost incoherent as he gave orders that Harris was to be shown the layout of the place. Then he went back into the lounge, waving to me to follow.

" I can't understand it !" he said. " What the devil's Garvin doing, Joe ? It's bad enough having M'Gano transmitting his

appeals for help like a cosmic megaphone without messages being sent in clear so that everyone knows what's going on."

"You think there *are* others?" I asked.

"I don't know. But I'd have thought Garvin would have worked on the principle that there might be others. *Why doesn't he send a plane for M'Gano?*"

"You could always take him yourself," I suggested.

"That I cannot do!" he said firmly. "Garvin gave me instructions that M'Gano must stay here until he sends for him They were absolutely clear."

Outside I heard Harris shouting orders as his men doubled into a defensive perimeter about the house. On the terrace I could see two of them setting up a radar-controlled gun against possible air attack.

Mechanically Carne set up a chess board and we started to play. It was a walkover for me, but then Carne didn't cheat by probing my intentions as was the usual rule when I played against a mutant. All the same he couldn't give his mind to the game, and he was even worse in the second one.

Just after midnight Harris reported. I could see that he was nervous as he stood in front of Carne, and wondered what he was after.

"There's one thing that worries me, sir," he said. "It's about these chaps who might attack us and try to rescue the . . er, lunatic."

"Well?" Carne demanded.

"Rumour has it, sir, that they're mutants—well, like yourself," He paused, irresolute, wondering how Carne would take what was dangerously near an impertinence.

"Go on, Captain?"

"Well, sir, if they can read thoughts, is there any chance they might read yours? I mean, you're at the centre here. You know what's going on. Perhaps they might get the whole set up from you—without you realising it, of course, sir."

He waited, half expecting to be put in his place. But Carne shook his head.

"No, Captain, I can put up an effective barrier against their probing. I've already tested myself against M'Gano, the prisoner. You have nothing to fear from us, any of us. But what about your men?

" I've taken no chances there. It's not very good tactics, I'll admit, but not one post knows where another is located. There's no password either. If they hear anything move, they're to shoot—and not ask any questions, either."

Carne dismissed the captain and we tried another game. Refreshments came and I thought of that comfortable room somewhere in the house waiting for me. On the surface it seemed silly. There wasn't a shred of evidence to show that anyone might turn up—even that anyone existed to turn up ! At least so far as Carne and I knew.

Yet all the time I had a feeling that this thing rated a great deal higher than either of us guessed. That right now on a number of maps in a number of centres, this house and everyone in it was marked with a large red ring. That I was at the centre of something bigger than any other world problem. Now I found I couldn't concentrate on the game and it petered out with three-quarters of the pieces still on the board.

Carne got to his feet and at the same moment the house screen buzzed and activated. A normal with spectacles peered at us and behind him I could see a radio panel.

" Please, sir, someone's trying to raise you on R/T," the house operator said. " Shall I put it through up there ?"

Carne nodded and as the screen cleared, a concealed speaker began to buzz and crackle. It must have come from an aircraft and there was a lot of atmospheric masking the voice that rasped across the room.

" Hullo, Carne," the voice demanded. " Hullo Carne. I take it you're hearing me. We're coming to get M'Gano. If you'd drop your mental barrier I could cut out all this radio nonsense."

" Who is M'Gano ?" Carne said unsteadily, an unseen microphone picking up his voice and transmitting it.

" There's no time to waste in foolishness," the voice rasped. " I want M'Gano and I want him fast. There are plenty of us in the plane and we're armed with dangerous weapons. We don't want to hurt anyone but we're going to get M'Gano if we have to burn up every man on the place."

" No one can come here tonight," Carne said. " If you approach, you'll be shot, whoever or whatever you are."

" For the last time !" the voice demanded. " Hand over M'Gano and we'll do no harm. But if you try to fight it out,

we'll cut the lot of you down with weapons you've never dreamed of. Are you going to hand him over ?"

" Operator, pull the switches," Carne said calmly.

Without looking at me he went over to the video in the corner and began to select a code. I guessed who he was after and I was right. The Administrator was at his desk although it was after two in the morning.

" They're going to attack," Carne said. " There's still time for me to fly M'Gano out in my plane. What shall I do ?"

" No !" Garvin rapped quickly—almost too quickly. " We're sending help right now. We want to catch the whole bunch of them, Carne. You've just got to hold out until we net them. We can finish this business once and for all tonight if only you can hold on."

I had never seen Garvin before, or for that matter any of the high-up supermen. There was a cruel twist to his lean face, an ice-cold look in his eye. It brought the hatred of the supermen welling up inside me to near explosion point. Then Garvin cleared the screen and my rage subsided.

" So that's it !" Carne said, almost relieved. " There *are* others like M'Gano and the plan was to get them here so that the whole lot could be taken at once. They might have told me !"

I sighed for him. As I said before, I liked Carne and I don't think even then he had the faintest idea as to what was coming. But I remembered all I had learned about our masters, and I remembered Garvin's face on the screen. I had no illusions left now.

There was a burst of gun-fire somewhere across the valley. We went to the window and looked out. Suddenly a whole line of conifers burst into flame and I heard a scream.

Harris came into the room at a run.

" They're attacking !" he shouted. " I've just had a radio signal from one of the posts. Using some sort of new weapon like a super-duper flame-thrower."

" An energy gun I expect," Carne said quite calmly. " Tell your men to hold out at all costs, Captain. Help is on the way. Massive reinforcements are being flown in. They're on the way now. It's all-important to keep these fellows busy until the last minute so that the whole lot can be captured."

" An energy gun?" Harris repeated, wrinkling his wide face. " What the heck's that ?"

" Oh, something that was bound to come along as soon as anyone could master the full movement of the Einsteinian equations. I expect they've one or two other things up their sleeve—but even they won't stand up to an explosive, powered slug, Captain. Now just you go and tell your chaps to hold on."

" Poor devils," he said as Harris went out.

Carne left my side as I stared across the valley. He walked to the back of the room. Very gently I felt him probing my mind. I'd no resentment. I knew what he wanted to know and I held nothing back. He had my opinion, raw and naked.

Then he came back. If he felt anything he showed no sign of it.

" You saved my life barely twelve hours ago, Joe," he said. His voice was soft and I knew the regard I had for him was returned in full. I guess he was too normal to make a good superman.

" I didn't get time to thank you ; I'd too much on my mind. Now I can think straight and clear. Clearer than ever before."

" Don't give it a thought," I answered. " You're a good guy, Carne, and coming from a normal that means something."

" I want you to go now," he went on, still speaking very soft and slow. " I want you to take my rocket plane. I don't know what the odds are on your breaking clear—they're certain to have thought I might make a break for it and they'll try to shoot you down."

" Heck, you go," I said, speaking a great deal more nobly than I was thinking. Anyway, I knew he couldn't go—not unless he was a coward. I'd stake my life there was never a braver man than Carne.

" I can't go—and anyway I'm giving you your life now in exchange for what you did for me today. I want you to take my personal records with you and I'll give you a note saying I've ordered you to go. That will ensure that you don't get accused of desertion by the Administration. There are enough important documents in the records to justify me flying them out. Now go quickly, Joe—there isn't much time left."

I agreed with that. He came with me and handed me a bundle of micro records he took from a safe. He penned a few lines on a sheet of plastic, sealed it and handed it to me.

" Good luck !" he said. " Perhaps we're both wrong about this and we'll meet again. If not . . . . "

He choked a bit and I couldn't get round to answering him myself for the lump in my throat.

The whole house was lit by the red glare of burning trees. As I crossed the hall towards the elevator door I saw a thin blue pencil of light cut across the terrace and set a score of bushes aflame. There was a steady rattle of gun-fire as the remnants of Captain Harris's men fought back. I only hoped that they'd held on long enough to prevent M'Gano's people reaching the end of the ramp.

The lift stopped at the mid-level by the cave and I stepped out into the dim blue light of the hangar. The rocket plane sat firmly on the end of a pair of rails. Looking up the ramp I could see a glaring red square of light—the night sky lit by the fires that must be blazing on all sides.

I slipped into the cockpit. I knew the controls well, for Carne had often let me take over when I had flown with him. I saw that it was fuelled to the limit, and I switched on.

I knew my chances were limited. Everything depended upon getting out of the tunnel at maximum acceleration. I had to gun the rockets to breaking point and hope that if I blacked out it would be only momentary.

I shut my eyes and stabbed the red button marked fire, kicking the venturi control to the limit. The seat caught hold of me in a grip of steel from the back of my knees to the back of my skull as somewhere around 12-Gs shoved the plane along the ramp.

I couldn't move a muscle as the plane cleared the end of the ramp and became airborne. I was concious that I was flying through an inferno and I saw the flames licking the wing-tips as I hurtled upwards. Then I was above the fires that raged all around the house.

At the same instant the rocket motors cut to half power. At least that freed my hands from the grip of acceleration and I clutched the stick. Thank God my reflexes are quick or I'd never have made it.

I saw another pencil beam of blue light flicker to my right. The wing-tip flashed with white heat and at least a foot fell away. Another six inches and the beam would have taken the aileron controls out—but I didn't learn that until later !

But now I was at least active again and I pulled the stick over to the left, throwing the little plane about in the sky until I feared it might fall apart. The venturi control was still maxi-

mum but the craft was as sluggish as a jet. I reckoned a second beam must have damaged the plane somewhere behind me. I redoubled my efforts to keep the plane moving in all directions at once, but heading steadily away from the conflagration.

Every man of M'Gano's people must have had clear instructions to concentrate on any plane trying to make a getaway. There must have been a forest of pencil beams through which I moved, slipping and sliding like a drunken dragonfly. Then suddenly I was clear of the pencil beams that threatened every instant to cut the plane in half. Almost unbelieving that I could have escaped such a certain disaster, I looked back over my shoulder.

It was true, and the beams were dying away behind me. They were flickering into blackness as the projectors that powered them were switched off. I had escaped the most immediate danger.

That left the supermen, and the weapons I guessed that they would use would be far less selective than M'Gano's people employed. If I was still to survive this night, I had to get as many miles as possible between myself and the ridge, and do it as fast as possible.

For I reckoned that the supermen were not taking any chances on M'Gano remaining alive. Ever since Carne had first told me that he had been ordered to hold M'Gano at his house, I had suspected that things could only end in one way. The delaying action had been intended for one purpose only—to draw more M'Gano's into the trap before it was sprung.

The supermen were more ruthless than any creatures yet evolved. They had already demonstrated that the lives of ordinary normals counted as much in their calculations as an outcrop of rocks that spoiled a good view from one of their hunting lodges.

It was unfortunate for them that Carne was one of their own breed. But if sacrificing Carne meant the total destruction of all M'Gano's people, then it was well worth it.

I had to get miles—plenty of them—between me and the ridge, and I gave the ailing plane every ounce of energy she could absorb. I kept low, too, in the hope that some hill or shoulder might protect me from the shock and heat-burn.

I had been flying for perhaps four minutes when the flash behind me hit the mirror and was thrown back into my eyes. I had forgotten the rear mirror, and for a moment I wondered whether perhaps my mistake would cost me my sight.

But I could see quite clearly. I could even see the lazy curling of the river below as it wondered across the clay country. It was lit by a red glow from behind me.

I have seen the old moving films of the bomb explosions before the pograms. I knew what to expect—and this wasn't it ! I turned the plane in a tight circle, and stared back towards the ridge.

M'Gano's people had been expecting a bomb, too. They were infinitely cleverer than I suspected, for they had prepared for it, and when the missile finally exploded, they had harnessed the fireball in some way. It appeared to be turned in on itself, convulsed in a titanic grasp that was wringing all the power and destructiveness out of it so that the heat and light that escaped could do no harm.

As the fire ball rose, held by some force-field projected by M'Gano's people, I thought for a moment of Klein's bottles, of space twisted in on itself. I shivered.

There was only one thing left to do. I must go to Karachi, and report to the Administrator. I had Carne's papers to prove I was no deserter, and as an eye-witness I would be of value to my masters. For a time, at least, and then they might destroy me to keep my mouth permanently shut. But I had no alternative, for in the whole wide world there was no place to hide from those probing, ruthless minds of the supermen.

But now I could face the future. Now at last, after three centuries, there was a glimmer of hope for mankind, for mere *homo sapiens*. It was a mighty slim chance, but it existed, where I had thought no chance for us could ever exist again.

Two giants bestrode the earth, each determined to destroy the other. Somewhere down below, around ankle-high, we normals watched the struggle with bated breath. For if both giants fell in their mortal struggle then even ankle-high would be better than six feet underground.

John Brody

In this second article in the series of Man's preliminary steps into outer space, Kenneth Johns, discusses the many recent experiments on the human body in conditions resembling that to be expected outside the Earth's atmosphere, or made at high altitudes.

OUTWARD BOUND

2. Space Medicine

By Kenneth Johns

A number of symposia on astronautics and the allied problems of space flight have been held and have been notable for the interest of thousands of scientists and armed forces' representatives attending. The growing volume of data is such that major advances tend to be overlooked in the rush and the odd item of news singled out by the newspapers is more than likely to be merely a stage in a continuing process, all parts of which add up to progress far greater than that shown by the one event.

This is certainly true of the balloon ascent of Major David Simons. It is more than likely true of the Russian satellite ; certainly no-one can now doubt that the Soviets' capacity in rocketry and their claim to be working on a vessel to circumnavigate the Moon must be taken seriously.

In March of 1956, a symposium was held at the University of California, when Major Simons reported on five years' work to discover the biological effects of cosmic rays. From experiments with mice and monkeys sent on twenty-four hour flights to heights of twenty miles by balloon, he concluded that there was no serious damage by cosmic rays. A few mice hairs turned white, which was the only outward sign ; but he warned that the genetic effects would probably be more far-reaching.

These effects did not seem to deter Simons one day at the end of August, 1957.

When the balloon and gondola were being readied in the mist that hung at the bottom of the open-pit iron mine in Minnesota, those taking part hoped that this time they would beat the equipment-failure bug that had cut short previous high-altitude long-term balloon ascents. Space Surgeon Colonel Stapp—of rocket-sled fame—had fired emergency-tests at Simons until the Major, sealed in his capsule, was confident he could handle any disaster that might arise. He had been sealed in a capsule for twenty-six hours, by which time claustrophobia should have reared its ugly head. It hadn't. He had been so highly trained that, when at last the balloon rose at 1,200 feet per minute, it was a familiar sensation.

The polythene balloon, 280 feet high, carrying a 500 lb load of scientific instruments, was aloft for thirty-two hours, and sixteen of those were above 90,000 feet, with a tentative record of 102,000 feet. The sky was completely dark at midday and some commentators have expressed surprise that Simons was not able to see the stars. To science-fictionists, it has long been suspected that the sunlight, by causing the eye to react, would still outshine the stars and prevent them from being seen. Perhaps the most outstanding visual observation made on this flight was the sunset, which, according to Simons, was more beautiful than any sunset seen from Earth or from an aeroplane

Avoiding a thunderstorm by dropping ballast, Simons snatched a half-hour's sleep and awoke in time to see a green dawn. Then equipment weakness stepped in again. The air

regeneration plant began to fail, forcing Simons to breathe alternately the CO_2 laden capsule air and his emergency oxygen supply. At last, Simons reacted to the rigours of his flight, and his radioed reports became muzzy. At once, Stapp ordered him down. But in no uncertain terms, this flight had been a major success.

But the ballooning exploits of Major David Simons were not the only subjects under discussion at the University of California symposium of March, 1956. Dr. Pace, of the University, said that it would be necessary to ensure a total water turnover of five pounds per day per spaceman. The Aero Medical Association at Chicago in April, 1956, heard that detachable cockpits are the answer to aeroplane failure at high altitudes. As will probably be the case with advanced spaceships, the whole cockpit with oxygen supply and pilot can be ejected and even float in the sea after its fall has been slowed by parachutes. This is the logical development from the current ejection seats, and the amount of experience being gained on designing these seats to meet the challenge of modern flying must be of inestimable use in the design and construction of the jettisonable control section.

With modern aircraft flying at speeds of Mach 2 and above at altitudes upwards of 75,000 feet, the ejection seat must almost inevitably give way to the ejection canopy ; but the interesting effect here is that the type of ejection seat in use now is able to operate safely from aircraft travelling at 800 m.p.h. at upwards of 40,000 feet and also from aircraft moving only at 80 m.p.h. and at zero height. This may seem confusing; the seats are designed for installation in the VTOL ships—Vertical Take-off and Landing—which have already been considered as workouts for space ship landing layouts.

Although all too little is known of the reasons for the tragedy when the Bell X-2 rocket aeroplane cracked up, what is known is that the pilot, Captain Apt, was ejected in his nose canopy section—after he had screamed and therefore after the accident, whatever it may have been. It is not known—nor is it ever likely to be known—if Captain Apt ejected himself or if vibration threw the section free. But the captain was able to free himself from the nose and should then have opened his personal parachute to make a safe landing. Unfortunately, the ground came up too fast. In all this tragedy, what does become apparent is that the detachable cockpit is a feasible

proposition for future high-flying aircraft and the spaceships that will follow them.

An interesting note here is that early science fiction illustrations—among others those by Frank R. Paul—often showed a spaceship, struck by a shower of meteors, jettisoning its cabin sections. What happens when the cabin sections in turn are struck, however, remains a problem to be tackled by scientists already at work on the forerunners of the spaceships.

The International Astronautical Congress of 1956, in Rome, included two important papers on space medicine. Major Stellings of the U.S.A.F. told of their free-fall experiments, and came to the conclusion that weightlessness is no barrier to man's adaption to spatial conditions. He has experienced zero gravity for a total period of fifty minutes—a very long time indeed when the mode of achieving free-fall is realised.

Aeroplanes are dived from twelve miles high, and free-fall is experienced for a small moment of time. Another system calls for a curving path accurately calculated to give moments of weightlessness at the highest points. Anyone who has driven rapidly and unexpectedly over a hump-bridge will have some idea of the sensations Major Stellings and the other volunteers have experienced.

But some of the guinea-pigs like it. Dr. Gerathewohl reported zero gravity experiments by the U.S. Air Force School of Aviation Medicine and said that, of the men tested under free-fall conditions in T-33 jet trainers, half felt a sensation of elation and relaxation—one even wished to live forever beyond the stress of gravity—but others felt pressure on their eyeballs and developed headaches and began to sweat badly.

From tests to determine what space may be like to decisions on who will be most likely to endure the conditions found or anticipated, is not a long step. In November, 1956, 1500 scientists met in New York for a symposium, the highlight of which was U.S.A.F. Colonel Davis's conclusion that married couples will make the best crews for long distance spaceships. But he went on to say that it is highly likely that spaceships will have crews of three to prevent personality friction and the development of strained relations more probable in only a pair of space pilots. It goes without saying, of course, that not all husband-and-wife teams would be suitable. So far, no information is to hand as to exactly how the scientists intend to decide if a married couple will remain suitable.

Many of the papers read at the sympc ium at San Diego in April of 1957 were top secret. Five hundred scientists turned up for this meeting held by the U.S.A.F. and the Convair Division of General Dynamics Corp. One paper, in dealing with the effects of re-entry into the Earth's atmosphere by high speed ships and missiles, disclosed that jets of ionised gas, speeded up magnetically to fifteen times the speed of sound, have been used to test models of nose cones. The re-entry problem is one of the biggest bugbears confronting the designers of the ICBM, and with the Soviet claim to have conquered this difficulty, research has been intensified on the different systems proposed.

Another paper read at this meeting dealt with a large vacuum chamber built by Litton Industries Inc. to test the effects of solar radiation upon materials in a vacuum equivalent to that found at a height of 200 miles.

Other releases on space medicine suggest that space pilots are going to have a pretty rough time—unless they are supermen.

Even the most optimistic of us must admit that there is little likelihood that the spaceships to come will be less complicated than modern jet aircraft or submarines. Eventually, when slave-controls and fully dependable robotic devices have been developed to the point where a spaceman can rely on them maintaining themselves, much complicated gadgetry will be dispensed with. But for the foreseeable future, the spaceship will be a container for a mass of electronic gear, far more complicated than anything in service today.

Yet, today, stress reactions are causing pilots of modern multi-mach jets to 'freeze' at the controls, to become paralysed as their minds blank out under the impossible load of trying to take into account too many factors at once. The effect is temporary ; but that cuts two ways. Today, at multi-mach speeds, a second could be the difference between life and death. Tomorrow, that fatal indecision, on takeoff or landing, could fling the rocketship helplessly to destruction.

It is becoming increasingly clear that the first space shots will be fully automatic, with the spaceman riding as a passenger ; and with any manual controls simplified to the limit.

Turtles are usually regarded as unenterprising animals who gave up the evolutionary race a few million years ago and just

bumbled along, shell and all, into a confusing present, where energetic mammals flash about all over the place. Now their hour of glory has come. The effects of free-fall have been tested on turtles, right alongside mammals. Among a batch of turtles, one had its labyrinth balancing organ—the little system of semi-circular canals that tell you which way up you are and which way you're going—removed. Only this turtle was able to co-ordinate its movement in diving aeroplanes during the moments of free-fall.

The others went right off their feed.

Other, more sophisticated tests, were carried out with humans in an attempt to establish what a man might be expected to perform under these conditions of strain and strangeness. Volunteers were asked to draw crosses in squares with their eyes open and then with them shut. Zero gravity conditions showed up the effects on the volunteers' capacity to follow instructions ; in particular they were badly affected during the free-fall period following high acceleration with their eyes shut. In other tests during which they had to watch a stationary light spot in front of them, three out of seven believed that the spot of light moved up or down as gravity pull changed—in any manual landing these three would have hopelessly cracked-up, how could they judge what was happening outside and when the time had come to cut in the rockets ?

On the other hand, as far as the future for spacemen is concerned, it looks as though they will be able to enjoy a far more varied diet than was at one time thought possible. A new method of freeze-drying cuts the mass of food by ninety per cent. The trouble with freeze drying was that, as the ice was sublimed from the food in a vacuum, the dehydrated surface layer created a very fine insulating structure around the interior which could not gain the heat needed to remove the rest of the ice.

The solution was found in the use of ultra high-frequency radio waves to generate heat inside the food and thereby to remove the water quickly. Stored in plastic bags, such frozen food remains good for months—expose it to spatial conditions and it will last indefinitely. Steak, mushrooms, peas, sirloin, shrimps and fish have all been tried and their flavour after soaking in water and cooking is said to be superb. This comes as a welcome relief—the initial work on irradiating food to

sterilise it for keeping is running into trouble now—the food does not, to put it mildly, taste as nice as it did prior to irradiation.

And in the lonely life of a spaceman a good meal is going to rank as a number one morale booster.

The picture of progress on the space frontier is made up of a large number of small and delicate pieces, each piece being researched and put into practice, there to dovetail into its neighbour. Men ascending in balloons ; men finding new methods of keeping and concentrating food ; men working on highly dangerous fuels ; men designing slim rockets to spurn the earth ; turtles riding in aeroplanes ; the dismembered corpse of a man shot into space—all working together so that one day a man can stand on the Moon.

But if one of those small details in one of the pieces is faulty —all the rest are as nothing.

Kenneth Johns

THE LITERARY LINE-UP

Brian W. Aldiss has incorporated several unusual ideas in " Segregation," which will be the lead novelette next month. A biological survey team from Earth sets down on an alien planet where a survivor from a crashed spaceship has set himself up as a local God. In twenty years you would expect him to know everything about the ecology of his world, communicate with its inhabitants and be a mine of information to his visitors. But he isn't—and they have to find out things the hard way. With surprising results.

John Wyndham's third ' Troon ' story, " The Thin Gnat-Voices," is situated on Mars ; and also we have the welcome return of Lester del Rey after three years with an unusual animal story.

Story ratings for No. 68 were :

1. Threshold Of Eternity (conclusion) - John Brunner
2. The Unreluctant Tread - - Kenneth Bulmer
3. Requiem For A Harvey - - - - E. C. Tubb
4. The Unwanted - - - - - Dan Morgan
5. The 40th Of December - - - Robert Presslie

It is a recognised fact that ocean-going vessels have personalities of their own, from the dirtiest tramp steamer to the largest liner. It is also logical to assume that spaceships will one day develop similar characteristics. This is the story of one such probability.

THE WAYWARD SHIP

By Sydney J. Bounds

The Captain was still young in years, although his hair was touched with grey and his uniform had lost its immaculate sheen. He sat in a swivel chair before the complex control panel of the *Katherine of Padua* and fumed over the useless intercom. With a curse, he jerked to his feet, crossed the cabin and flung open the door.

" Mac !" he shouted. "What the hell's wrong now ?"

This wasn't by any means the only fault he had found in checking vital equipment. There were moments when he felt sure the ship had been deliberately sabotaged.

The engineer came at his own pace along the tubular corridor. He was a short man and his overalls were none too clean; his face wore a broad smile that revealed missing teeth.

" Nothing to worry about, skipper," he drawled. " I've told you, Kate gets a mite upset over landfalls,"

" Damned old tub," the Captain snarled. " Should have been sent to the breaker's yard years ago."

Mac patted the worn hull affectionately. He had been with the ship since her maiden voyage ; he knew all her moods and loved her for them.

" Mon, those are hard words ! Sure, she's a perverse female with her tail squatting on the ground . . . but take her up

where the sky is black and the stars like fairy lights and she's as sweet a craft you'll ever find. A perfect little lady !"

The Captain struggled to control his feelings. His first command—and here he was saddled with a battered hulk and a Scots engineer. It was almost enough to make him wish he'd stayed as First Officer aboard *Pelican IV*. Now *there* was a real ship, smooth-running and efficient, better in every way than this ancient monstrosity. Promotion, he thought bitterly, wasn't everything.

" The intercom ?" he suggested, breathing hard.

" That'll be all right once we hit deep space," Mac said confidently. " You learn to expect these little snags down below. Kate doesn't like planets, and she has ways of showing it. Never known a landfall yet where she didn't act up." His blue eyes twinkled. " You'll soon get used to her ways, skipper."

" I see," the Captain said coldly, and glanced at the chronometer.

Five minutes to firing time. And the owners wouldn't be listening to excuses if he fell behind schedule. No, he'd be looking for another berth.

" Stations ! And get that intercom working as soon as we clear air."

" Aye, sir," Mac said, saluting.

It felt good with the atomics humming and space under her again. The void soothed creaking joints ; gone the clinging damp of atmosphere, the hammering noise.

Out in the velvet darkness, every tiny sound—the minute click of an electronic switch, the rush of hot gases over pitted lining, the straining of metal bulkheads—was magnified a hundred fold. Silence increased the intensity of awareness.

Planets were hell-spawned, invented by humans for humans. Only in space, where the bright stars beckoned, did she realize her purpose. She wanted never to land on another planet. These ridiculous humans—how she wished she were free of them !

The Captain relaxed in his seat, tunic unbuttoned, pleasantly surprised by the old tub's performance. As Mac had predicted, the ship ran smoothly once they were between planets. He fingered the stubble on his jaw as he surveyed bank on bank of shining instruments—and an idea came to him.

He rose, fed figures to the computer, and waited. There was a gleam in his eyes as he studied the perforated tape. Yes, he could knock two clear days off the scheduled time, and on his first run as master. It would be a feather in his cap.

He pressed down the key of the intercom and spoke into the microphone.

" Mac ? I want more power, ten per cent more. I calculate we can increase speed as far as braking point. It'll mean a substantial bonus for both of us."

Mac did not reply at once. The Captain imagined him wiping his greasy hands on his overalls, then running them through ginger hair. His voice, hesitant, came quietly back :

" She won't like it, sir. Kate has her little ways, and she's set in them. Aye, and she's plenty of tricks, too !"

The Captain checked an explosive reply. He smiled expansively.

" Well, nurse her along, Mac . . . because this trip, she's damned well going to do things *my* way !"

He released the intercom switch and leaned back, frowning. There was no doubt Mac was a good engineer, but he was getting old. A man who thought his ship had a will of its own was obviously past his prime. The Captain wouldn't like to send in an adverse report, still . . .

Angry tremors pulsed through the ship. New stresses set up in her creaking plates. Rocket linings baked and fractured. Power surged at greater intensity . . . and, somewhere, a tiny coil snuffed out.

The Captain tugged at his collar, panting for breath. His head throbbed as though devils wielded sledge-hammers inside it. The air was rank and he felt like screaming, but only a choked sob writhed past his lips.

Climbing unsteadily to his feet, he reeled along the corridor like a drunken man. Mac's boots extended through the open door of the tiny cabin that housed the air-conditioning plant. The engineer lay on his back under a labyrinth of tubing, wrestling with an obstinate bolt.

" How much longer ?" the Captain asked hoarsely.

Mac's face bobbed up, wearing an unhappy expression.

" She's a fickle jade, right enough," he muttered. " I warned ye—don't say I didn't—Kate doesn't like all this rushing about."

The Captain glared at him, shifted his feet.

" What's wrong, man ?" he demanded impatiently.

Mac pointed an oily finger deep in the heart of the tubing.

" See that coil, right at the back ? Ye ken the makers' cunning, now—it's burnt out and, before we can breathe clean air again, I've got to replace it."

The Captain took a firmer grip of himself. This trip was rapidly developing the qualities of a nightmare.

" Well, do your best."

" Aye skipper. Maybe, if you'd consider cutting back the schedule . . . ?"

" No !" The word ripped out like an explosion, frustration boiling up inside him. Stale air clawed at his throat. Turning, he tripped on a snag of metal, cursed, and lashed out with his boot. " You damned—you're no lady !"

The Katherine of Padua *rushed headlong through the black infinity of space.* No lady, no lady, *chattered the relays.* No lady, *purred the dynamo. The insult echoed through every pore and cell of the ship.* No lady, indeed !

Things happened fast after that and the Captain's grey hairs multiplied. A cable snapped and the cargo shifted, necessitating hours of back-breaking work. A soldered connection parted, the viewing screen went blank, and he had to fly blind, while Mac traced the wiring and made repairs. Finally, the No. 1 tube packed up altogether.

He paced the control room, waiting his engineer's report.

Mac came in, poker-faced ; in his opinion, the Captain was just asking for trouble.

" There's nothing to be done wi' Number One," he insisted. " It's a job for workshops."

The Captain took a deep breath.

" Then maybe you can fix the controls," he said bitterly. " They're sluggish . . . I'm beginning to wish I'd never set foot aboard this hoodoo vessel."

" She's sulking," Mac returned promptly. " Kate has her pride and you've hurt her feelings. You should never have spoken to her the way you did, skipper."

" Your damn fool notions will drive me crazy—get the hell out of here !"

Mac retreated, shaking his head.

They were fast approaching their destination, much to the Captain's relief. He'd had enough of this jinx-ship ; he wanted only to set her down and wash his hands of the whole business. He put the ship in orbit, circled once. It was going to be tricky, landing with one tube out of action.

" Breaker's yard," he muttered. " That's all this old iron is any use for. Scrap !"

He pressed the firing key to bring her down . . .

Another of those miserable little planets. She was fed up with them—and now, the final insult. Scrap. *She wouldn't land, she'd stay in space for ever and ever.*

Nothing happened when he pressed the key.

" Mac," he yelled. " What is it this time ? Doesn't anything work on this hulk ?"

Mac appeared in the doorway, glowering.

" Aye," he grumbled, " yon engineer does !"

He removed the cover from the key and checked it. He started to test the wiring system ; somewhere, one tiny connection had short-circuited and, until he found the fault and put it right, the ship would stay in orbit.

The Captain paced the control cabin like a caged lion in distress. He glared at the viewing screen, and the spinning, cloud-covered world below. Maybe he'd quit the Service for good, he thought, maybe—

" I think I've got it," Mac announced from the floor, amid a maze of trailing cables. " Shouldn't be long now."

He repaired the fault . . . and, immediately, Kate manufactured another.

" Craziest ship ever," the Captain spluttered, jabbing at the useless keys.

His nerves were fraying and the schedule was all to hell, but he was past caring about trivialities. All he wanted was to set foot on land again.

Mac ripped out more wiring.

" Reckon I'd best start from scratch and rewire the whole panel, skipper."

" And how long will that take ? Patch her up, somehow. Damn it, we can't stay up here for ever—we're short on air and water as it is. We've *got* to get down."

Kate orbited again, triumphant.

Even Mac was getting worried.

" Please, little lady," he said. " You're a bonny wee lass, but right now this Scot wants down !"

He reconnected the wires to the firing keys—still the rockets refused to fire.

" There's the radio," he suggested. " They could come up and take us off."

" Abandon my ship ?" the Captain roared, bristling with anger. " Never—I'll take this thing down if I have to go space-sides and push !"

Mac shrugged helplessly. It looked to him as if the situation were developing into a straight fight between Kate and the skipper. And there was nothing he could do about that.

The Captain continued his pacing, a gaunt figure, his tunic flapping and a wild look in his eyes. Once, he stopped to inspect the fuel gauge, rubbing the back of his hand across his chin.

" Enough to keep this damn thing in orbit long after we've perished," he muttered, and paced some more.

Mac waited anxiously as the Captain wrestled with his problem and Kate circled again.

" All right !" The Captain's words carried quiet desperation. " If it has to be . . . "

Before Mac could stop him, he had grasped the red handle of the jettison unit and was emptying the fuel into space. Mac froze, horrified, then leapt to seize him.

" Mon, tis suicide you're after. This is madness."

" Maybe," the Captain returned grimly. " Maybe I *am* mad —but this derelict isn't going to beat me. I'll show her who's master here. With no fuel, gravity will drag her down . . . and that'll be an end of her !"

" Us, too," Mac grunted, and stared through the port. Globules of heavy water bobbed free in the void outside.

" Now," said the Captain, " we'll see." He seated himself at the controls once more. " I've left enough fuel to make a landing. Just barely enough—if she goes down *now*."

Mac held his breath while the Captain pressed the firing key. There was a long moment of agonizing suspense ; and then the rockets burst to life.

Mac mopped his brow as the *Katherine of Padua* slanted down through fleecy clouds.

" You win, skipper !" He chuckled suddenly. " Though—'tis a wonder, by your leave, she will be tamed so !"

Sydney J. Bounds

This is a delightful conversational piece by Mr. Presslie—five derelict specimens of humanity sitting under a bridge talking, mainly about alcohol. No action takes place, yet a momentous decision is reached which has far-reaching effects.

ONE FOR THE ROAD

By Robert Presslie

" The trouble with Harry," said Lew the Lawyer, " is he knows too much and says too much." He showed there was no animosity in the accusation and that he was merely exercising his right to an opinion by passing the bottle to the object of his statement.

Harry drank, held the bottle to the light, and sipped another few drops to keep the share-out equal. He gave the bottle to Mack, sitting on his right, and said, " You misunderstand me, Lew. Everybody misunderstands me. Simply because there are moments when I choose to elevate my mind,"—he tapped the two-week-old scrap of newsprint which had blown under the bridge—" simply because I sometimes ponder over imponderables, does not make me the highbrow knowall I am accused of being."

The bridge overhead made him sound like a liar. It contained his voice, carried it to the top of the arch above the slow greasy river and amplified it, gave it overtones of authority

He watched the Weasel take the bottle in his turn. When he was satisfied that the runty little man had taken no more than his fair ration, he went on to expand his theme.

" My trouble is I am a misfit in society. With the right parents—bless their anonymous hearts—and the right environment, who knows I might have been all you say. A scholar. A rich man. But what am I? I am an overfleshed animal, by lust out of poverty, with the chronic misfortune of being able to think. A peasant with a brain, that's me. Or, as you have it—College Harry."

The Dummy, sandwiched between the Weasel and Lew, gave him a blank stare and shifted his focus of attention to the bottle which had just come into his hands. All of them watched, as if they had never seen it before, the phenomenon of the Dummy drinking without a ripple of his adam's apple ; he had no epiglottis, no vocal chords and a tongue that was tightly tied down by a thick rib of membrane. He also had a fantastic ability to consume limitless quantities of alcohol. When the bottle was drained he flung it over his shoulder into the river and for a while the group had a new interest. They watched the bottle with the devotion of dedicated scientists. The problem was the sinkability of the bottle ; the factors involved included the incoming tide which had been known to wash valuable items on to the green-slimed foundation of the arch, the rainfall a hundred miles up-river, the amount of traffic as barges plied their trade with consequent counter ripples on the black oily surface.

In the end, Lew got impatient. He dug a loose pebble out of its bed, wiped the marine growths against his trousers to get an unimpaired grip and smashed the bottle with his first try, bringing a murmur of approval from his companions.

" According to Harry," he said, " there goes eighteen percent of our income."

" Nineteen," Harry corrected. He waved the scrap of newsprint under Lew's nose. " It says here that nineteen percent of the national income is spent on booze. But you should worry. Your income is nothing and nineteen percent of nothing is—nothing !"

One of the less obvious effects of chronic alcoholism is the development of a thick ridge above the eyes, and diverse as Harry's friends were physically, each had the facial look of a Neanderthal man that made them seem like brothers. Four ridges dropped over four pairs of eyes as they attempted to assimilate Harry's mathematical statement.

Big Mack—whom nobody in their right mind would have described as a thinking man—gave his analysis. " That means we get the booze for free." Mack was a flat-nosed adenoidal hulk with a pendant lower lip that never contacted its partner. He eased himself off his haunches with all the grace of a mastodon. Harry pushed him in the chest, forcing him to sit down again.

" Where do you think you're going?"

Mack frowned at Harry's strange obtuseness. " For some more of that free liquor, of course."

Harry started to lead him into the byways of reality. "That bottle cost us four shillings, more than half a dollar, two roubles—or if you want it in terms of true relative value, the wages of one man working for thirty minutes."

" But you said—"

" What I said would sound like a paradox to most people. I was simply making the point that the four of you earn nothing yet you manage to exist. You have the bridge for a place to sleep and for shelter when the weather is inclement. You are clad—after a fashion. Occasionally you eat. And all the time you are able to avail yourselves of the true sustainer of life."

Lew had the sharpest wits of the others. He said, in mixed tones of self-righteousness and menace, " Are you calling us thieves?"

" Well," said Harry, who knew that Lew's belligerence was seldom more than word-deep. " Take you, for instance. How many ships have you been thrown off? How long is it since you were struck off the payroll of every shipping line in the country?"

" I was never convicted—"

" Granted. It is not for nothing that you are known as Lew the Lawyer. But can you deny that you were a danger to the lives of countless seagoing men—that many a ship might have foundered because of your passion for the alcohol in the compasses?"

Lew grumbled. " I don't see why you got to bring that up."

Harry assured him. " Nothing personal, Lew. Be not offended. Your sins are equalled if not surpassed by those of our friend Mack. Mack used to be in the furniture business. He was a french polisher. Until he made the momentous discovery that the spirit used to dissolve the shellac was potable."

Mack was a pachyderm all the way. He sensed no offence and took none. Harry continued his character reading.

" What can we say about the Weasel ? Here we have the perfect parasite. He battens on a society from which he takes everything and gives nothing in return. Spawned in one war and reared under the threat of another. He thinks it is only right that society should support him."

The Weasel's beady eyes squinted at Harry unblinkingly. " No, that's not true," Harry amended. " It isn't true because he doesn't even think about it at all. He just takes what he wants when he wants it, without thought, without payment, without gratitude. In this respect he is not unlike our silent friend, the Dummy. He too utters no word of thanks. But perhaps we are deceived. We know he does not speak but does he hear ? Does he think ? Has he any emotions ? Or is he a veritable dumb animal ?"

Only Lew spoke up, not in defense of himself and the others, simply because it was his nature to argue. " I still say you talk too much."

" I think too much," Harry reminded him. " And when I talk it's because I've been thinking and I have something to say. In this instance—"

He ran a finger along some lines of print on the paper flattened against his knee. " There is part of a poem here. It is by a man named Donne. Since it is written in a manner you would not understand—' Ask not for whom the bell tolls '—I will paraphrase it. In essence the quotation is to the effect that no man is useless, that everyone contributes something to the unity of the world."

He flipped the paper over, speaking without pause, thereby indicating that he was pursuing one distinct line of thought.

" On the reverse I see an item of current news ; or perhaps I should say speculation, because the words are cautious. There have been *vague reports* from observatories and radio astronomers. Certain branches of the military believe *there is a possibility* that a strange craft which was lately seen over these shores is not of earthly origin. Security investigations would *seem to suggest* that we have at last been visited, and that after preliminary movements for the purpose of familiarisation with our customs, the visitor has gone into hiding."

Harry looked for some reaction but got none. All eyes were fixed on him. All faces were gloomy and morose. He reflected sadly that this sullen attention was being bestowed only because they knew he had a flask in his hip pocket.

He determined they would hear him out before he passed the flask around. It was a small price to ask.

"I was wondering," he said. "Suppose this visitor has settled in some small community so that he can report on the peoples of Earth. Suppose the report he has to make is one about our usefulness—he might be some lordly allocator of lebensraum, he might be looking for worlds where unworthy tenants can be replaced by more deserving ones—"

He dug out the flask, held it tantalisingly in his hands. "Just suppose," he said. "Just suppose this visitor settled in a community like this one !"

Harry's flask contained methylated spirit, a potent, easily obtainable beverage for those whose tastes lie in that direction. And its connoisseurs number far more than would at first seem obvious. They seldom hit the headlines because they seldom make trouble ; a meth drinker falls unconscious long before he has a chance to get rowdy ; when they are occasionally arrested for vagrancy, they are too small-time to be news.

Yet they exist in nearly every country in the world. In America they are called geeks. In Scotland their poison is named feek—and apart from methylated spirit it also includes rubbing alcohol, brass polishes and anything whatsoever that contains methyl alcohol. Methyl alcohol is wood alcohol. It blinds and then kills. But feek drinkers are no mere alcoholics. They are addicts. More than that, they are perverts. Given the choice of food or drink they will spurn the food every time. And given a choice of drinks they will shun civilised liquors in favour of wood alcohol in one of its many forms.

His friends thought Harry was a bit of a dude. They accepted the contents of his flask but they sneered at its clearness and lack of colour because they knew Harry had filtered off the dyes and denaturing agents which are added to methylated spirit in the misguided belief that they will discourage bums from drinking it.

As Lew said, "The money you wasted on a loaf of bread would have bought another pint." He was referring to the filtering process : the top and bottom crusts of a loaf are cut off and raw methylated spirit is poured into one end, running out clear and colourless at the other.

"It's my money," Harry said. "If I didn't go to the track tomorrow and every other Saturday as I do, there would be many times when you had nothing to drink."

Big Mack and the Weasel shuddered at the thought. Mack said, " Lay off him, Lew. He wants to parade dogs round a ring that's his business. He does all right by us. You don't hear me complaining, Harry."

Mack's tone was fawning. Harry curled a lip. " And you don't get around me that way. I've got no favourites. Share and share alike, that's my motto." Mack started to protest but changed his mind. He did not want to offend Harry and perhaps be left out of the next pass round of the flask.

" This visitor," Harry said, getting back to his subject. " One look at you, Mack, and he would say : sweep the place clean, it's got nothing but bums, sweep it clean for the new tenants."

Mack tortured his face. Rational thought came hard. " I don't see nobody. I don't see no visitor."

Harry said, " Maybe you do and don't know it. Maybe he is Lew, or the Dummy. Maybe it's the Weasel. He might even be me. Or if he was acting real clever he could be passing as a deadbeat by the name of Mack !"

Lew came to Mack's aid. " He's crazy. He reads too much. I reckon the less you know the less you got to worry about. Harry's always worrying about something. Right now he's got this visitor thing on the brain. He reads about this visitor —who isn't even a sure fact—and starts worrying maybe one of us is him. With a whole world of people to pick from, why should he pick us to snoop on ? We ain't important."

" That depends," Harry said. " It depends what he's looking for."

" Aw, drink up and shut up !" Lew was getting impatient, for Harry was holding the flask while he talked and Lew was waiting his turn. " You know, the way you've been nagging at us today—criticizing, name-calling, looking down your nose—I'd say you were the visitor if such a thing exists."

Harry rubbed the back of his hand across his mouth and gave Lew the flask. He began to wish he had never brought the subject up. He had thrown a pebble into a calm pool of equanimity and a certain amount of backwash was to be expected. The group had long been out of touch with the normal world ; to force the prospect of another on them was unfair. Rightly they felt it was not their concern.

At the same time he felt bound to go on. He had stirred the pool, it was up to him to smooth it again.

" The visitor exists," he said. " You can be sure of that. This paper with its maybes and perhapses is telling us so. Look at it this way : the thing is military, tied up with secrecy and undercover intelligence work. That means you can wager your pickled dehydrated souls that before one part has been made public another eight parts of solid authenticated fact lie under the surface—like with an iceberg. And I think this alien visitor is in danger of being caught because he might founder on that iceberg."

With the flask empty and his gullet full, Lew had lain back against the arch of the bridge and gone to sleep. Since the others had been mentally asleep for many a moon that left Harry with no audience.

Nevertheless he continued.

" Reading between and behind the lines, you can see that tabs have been kept on the alien from the minute he set foot on Earth, probably even earlier, from the minute an unidentified blip dotted a radar screen. Intelligence will have picked up his trail—I'll bet it was a trail he thought he had covered, but he reckoned without the timidity of dear old ladies who report strange silent men with strange ways and others who later tell of a man who asks questions in a thick accent. Then, when he had the dialect pat, he disappeared, or thought he had. He settled in a community which is inconspicuous, keeps itself to itself and does not ask too many questions."

Lew opened an eye, told Harry to be quiet and went back to sleep. Mack said irrelevantly that once he had an uncle who disappeared ; which surprised Harry because he thought Mack had not been following. The Dummy and the Weasel said nothing.

Harry complained about the lack of interest. " This concerns us, you know. Like the man, Donne, says in the poem, anything that affects even one human being affects the whole human race. And if one of us is the alien visitor he will be getting an altogether false impression. He will be condemning the human race because of our worthlessness."

" You got anything to drink ?" the Weasel asked. " Anybody ?"

There was no response from Harry, Mack or the Dummy. He stared hard at Lew who was still pretending to be asleep. Even with his eyes shut Lew could not ignore the Weasel's unblinking gaze. He fidgeted uncomfortably, finally swore and pulled a bottle of cheap red wine from an inner pocket.

" That's the last !" he warned.

Harry snatched the bottle before the Weasel got his greedy fingers round it. " You're going to hear me out if I have to starve you !"

The Weasel's eyes bored into him. Mack growled. Lew watched to see which would be the first to jump on Harry. He was smiling at some private amusement. And the Dummy kept his eyes on the precious bottle.

" Don't try it," Harry said quietly. He spoke as gently as a mother telling her children not to get their feet wet. He added, in the same tones, " They come a lot tougher than you at the racetrack—and I've never been hurt yet."

Mack and the Weasel relaxed and contented themselves with hating him and feeling sad as he put the bottle behind him. Lew's smile faded. And the Dummy remained vigilant in case the bottle rolled out and got broken or tumbled into the river.

" That's better," Harry said. " Now I'll tell you what good little boys you are. A while ago I was rough, pulled your characters to pieces. Now I'll put the pieces together again. I'll show that you're not worthless, none of us is worthless. And I hope whichever of us is the alien is listening carefully !"

He scanned them all before saying, " Let's take you first, Lew. I started with you last time, and you're the one who has taken what I said most to heart."

" You said I was a thieving bum," Lew recalled.

" And I still say it," Harry maintained. " But you never stole without giving something in return. You told us you were never convicted for stealing the alcohol from ships' compasses, didn't you ? But you didn't tell us it was because you were never found out. Oh, maybe they knew you had been tampering with the instruments and fired you on suspicion—but they must have wondered afterwards if they hadn't misjudged you."

" Meaning I didn't steal the alcohol ?" Lew asked with an inflection of injured professional pride.

" Meaning you took the spirits but replaced it with a fluid which worked equally well. Fluoro-gylcol, as it happens."

" How do you— ?"

" In a moment," Harry said. " I'll come back to you. Let's consider the case of the Dummy next. Would you say he was useless, not fit to tenant our world ? If you believe

that it is because you know too little, because you do not know that the Dummy chose this mode of life in a moment of self-sacrifice. The Dummy could have been living a life of luxury. His parents are . . . well, you would be shocked if I named them and I would be defeating his purpose by doing so. But he is not the unfeeling, unthinking animal he seems. Instead, he feels too much. Long ago he decided his condition made him an embarrassment to his family."

The Dummy eyed him impassively and Harry went on, " I'm not saying he did the right thing by disappearing. But I do say he did a fine thing, his motives were of the best."

" Mug !" the Weasel said. " If it had been me—"

" Yes," said Harry. " Your circumstances were different. Born in life's gutters and raised in its sewers, you didn't have much of a chance to be anything. And yet you were ! There was a time when your pictures filled one floor of a famous gallery and drew the crowds and their admiration. That was before the street accident that ruined your hands."

The longer Harry went on, the more attention he got. None of them had imagined anyone knew the things he knew. They awaited his further revelations with anxiety.

" People soon forget," said the Weasel bitterly.

" No they don't," Harry denied. " Your work suffered a temporary eclipse when other fine artists found their place in the sun. But it still exists and it is still admired. It would be a foolish visitor who condemned you simply because you have slipped back into the gutters. Somewhere inside you a great creative genius still burns and if your hands are useless, you should remember that creative genius has many outlets. If you let them, other men could be your hands, you could still contribute beauty to the world."

Harry put the question directly to Lew : " Don't you agree ?"

Lew came back from some private meditation. " Eh ? Why ask me ? You're the boy who knows it all—though how you know it is a problem. Likewise it is a problem why you should bring up all this stuff."

" It is time to talk," said Harry, as if that was sufficient explanation. " This visitor I've been telling you about, he wasn't so clever. His movements were known, watched and followed. And if he was watched that means there had to be

a watcher. In fact, there is one. I'll be blunt, Lew. Of the five men here, only three are what you would call real bums."

" And the other two ?"

" One visitor, one watcher."

" Since when ? The rest must have known there were strangers in their midst."

" Not necessarily. Not if the alien gave them the hypnotic impression that he had always been among them, complete with full background."

" What about the watcher ?"

" A security man with a long record as a bum. Somebody who has acted the part all through his career, someone who has always dredged his information from the seamier side of life."

The Weasel, no longer indifferent, asked, " Someone like you, Harry ?"

Harry laughed and shook his head. " Not me. And not you, Weasel. Or the Dummy either."

Big Mack looked affronted. " You don't mean me, Harry?"

" Well, now, I haven't dealt with you yet, have I ? You gave me a clue though. Before the war you were in the furniture business as I said. You were a xylochemist, a specialist in the treatment of wood. You lost your father in the war when an incendiary bomb hit the lab and the inflammable chemicals did the rest. You nearly died in trying to save him. You were burned pretty horribly, something from which you never quite recovered. Hence your present state, your nervous craving for alcohol."

Mack started to weep.

" Cut it out," said Lew. " He wants to be a bum that's his affair."

" He's a bum," Harry agreed. " But the point I'm trying to make is that he wasn't always a bum. There was a time when he made a contribution to the world by a deed that elevates him above being called useless and superfluous."

" Lay off him, that's all."

" But why, Lew ? He did nothing to be ashamed of when he got you that fluoro-glycol. That's how I first knew."

The Weasel said, " Knew what ?"

" Knew that Lew was the watcher. Lew isn't a real bum, even if he has spent his life among them. Lew is a very clever security man. Lew is the one who tracked the alien as far as this bridge. Lew is the one who could have killed him if

he made one wrong move, if he appeared to be ready to decide that Earth was to be taken over."

Lew said grimly, " And I still would. My orders are not to hurt him unless and until he shows signs of hurting us."

" It won't be necessary," Harry said. He looked around him. " I think the alien knows now that no man is useless, that the loss of even one man would—as Donne put it—diminish the world."

Pointing his next remarks directly at Lew, he continued, " Mind you, your watchfulness wasn't as perfect as you think. The alien could have slipped off at any time had he wished."

Lew patted a pocket. " He wouldn't have got far."

" He would. And did. Every week, right under your nose, he has made a radio report to his base ship which is waiting upstairs. Radios can be made awfully small, you know."

" I would have seen him," Lew said confidently.

" You didn't. There he was, every Saturday, patrolling dogs around a track, in full public view. You needn't feel you failed—who would expect an alien there and who would think his moving lips were not just uttering calming words to the dogs ?"

Lew took out the gun. " You were good, Harry. Very good. But not good enough. I figured it was you."

Harry pointed to the gun. " Put it away," he said. " Don't spoil everything now. The gun won't be necessary. You've heard my honest judgement. Can't you trust me ?"

Lew looked at the gun and put it in his pocket again. " I believe so, Harry. You'll be leaving us, of course ?"

" Almost at once. Tomorrow will be the last time I go to the track. I'll ask to be collected. In a way I'll be sorry. You're nice people."

He put a hand inside his coat. " There's only one thing I've kept back." He produced a twin of his other flask, twisted the cap and handed the flask to Big Mack.

" None for you and me, Lew," he apologised. " But for the others, the ones who need a little something special to help them get back on the road to a normal life . . . One for the road !"

Robert Presslie

THE STAR GAME

Assuming that faster-than-light travel may one day become possible and such a ship will break the bonds of our present Space-Time continuum, what sort of a place will this "other space" be? Few authors have tackled the question in quite such an interesting manner as Dan Morgan does herewith.

By Dan Morgan

I

Bradlaugh, the Astrogator's mother, was a big, balding man with gentle, brown eyes who moved like a worried grey bear in his sloppy coveralls. The familiar vibration of the drive was already beginning to course through the hull as he escorted Heilbron out of the loading lock with its milling crowd of embarking passengers and into the corridors of the starship.

Now that the first brief cordiality of meeting was over the little-red haired stranger seemed more interested in his surroundings than in his companion; his sharp-nosed face moved eagerly from side to side, appraising the sleek efficiency of the *Wanderer*. But it was not to see the ship that he had come here, Bradlaugh was sure of that. He glanced down, his heavy brows lowering.

"Shall we go into the main lounge? There won't be many people in there yet and we shall be able to talk."

"Yes, of course," Heilbron said quickly. "But wouldn't your quarters be more private?"

Bradlaugh swallowed. He was not used to handling people like this brisk little man; one lost the knack after ten years in

Astrogation Psyche. " I'd rather we straightened out a few things first, if you don't mind."

" Anything you say." Heilbron's face creased in a ready, professional smile showing small, widely spaced teeth.

Bradlaugh found them a corner table, well away from the bar. " Anything to drink ? he asked.

" No, thanks." Heilbron sat delicately poised on the edge of his chair.

" Headquarters asked me to co-operate with you, but they omitted to state the nature of your mission." Bradlaugh's voice was low, with a soft, burring accent. " Do you mind filling me in on the details ?"

Heilbron gave him a brief searching look which melted quickly into a smile of reassurance. " Those seat warmers ! They love a slice of Top Secret, don't they ? Afraid you'll be a bit disappointed, I'm nothing very special—just a hard working research type from Universal Electronics doing some field work."

So now we're grouped together making amusing cracks about the administration, thought Bradlaugh. This little fellow is smooth. My first guess was wrong ; he's not a psyche, but his sociogenic orientation technique is right out of the Class-A Manual.

" I thought you people had given up the idea of an astrogation computor for hyper-drive long ago ?" he said.

" The impossible takes time—but we'll make it eventually—it says so in the contract," Heilbron said with a touch of smugness. " The mud monkeys are doing . . ."

" *Venusians* !" put in Bradlaugh firmly.

" Sorry," Heilbron swiftly realised that he had said the wrong thing. "An expression used back on Earth sometimes."

" I've heard it," Bradlaugh said, wondering to himself why he had found such satisfaction in observing the momentary confusion of the other. " Some of them forget that without the Venusians we would not be able to use hyper-drive ships at all."

" Sure, I should realise that if anybody." Heilbron was still on the defensive, trying to smooth over his *gaffe*. " I was just about to say that they do a fine job ; but there's always an element of risk. You know as well as I do that using Venusians as Astrogators was just a stop-gab until something better could be developed."

" A pretty good stop-gap, I'd say. One that has worked for the last thirty years, at any rate."

" With some exceptions," Heilbron reminded him. " We've lost three ships already this year."

" *Three* ?" Bradlaugh stiffened. " Another one ?"

" Yes, the *Icarus*, on her way to the Pleiades with six hundred colonists aboard."

Bradlaugh sat for a moment, withdrawn in shock. He had known Mackeson, the Astrogation Psyche of the *Icarus* well. They had done their training in the same cadre and gone out into the submarine twilight of the Venusian swamps to find their Astrogators together.

The Venusian humanoids had their own primitive ideas on the matter of bringing up their young. They lived a tough, amphibious life in which only the strongest could be expected to survive and their culture was geared accordingly. Venus was a lush world of oceans and islands, whose swamps teemed with animal life, killing and being killed in a savage cycle like that of the primeval jungles of Earth several million years earlier. Soon after birth the youngsters were taken from their mothers by the shaman of the tribe and into the swamp, where they were abandoned at nightfall to fend for themselves. The Venusians reached a greater maturity of development in the womb, and were not entirely helpless as human children would have been ; but even so their abandonment was a cruel test which all too few of them survived. The weaklings were killed off by predators, leaving only a small fraction who by cunning and luck managed to fight their way back to the tribe and become accepted.

The first Earthmen had been shocked by the brutality of this and other customs. But it proved almost impossible to establish any reasonable communications with the Venusians ; nomads, who needed no other roof above their heads than the dense warm undergrowth, they moved away from Earth settlements, spurning all offers of help and friendship, secure in their ancient way of life and mistrusting the motives of these strangers. The basic difficulty was to explain to these creatures who had never seen the stars or even direct sunlight that they were from another planet. To the Venusians there was only one world, their own.

The brightest features of the Venusian sky were the aurorae which flamed with a radiance far surpassing anything the ex-

plorers had ever seen during the night, which was ten Earth days long. This shimmering cascade of natural grandeur was caused by the greater concentration of electrical particles in the upper atmosphere of a planet so much nearer to its sun than Earth.

Mankind had seen nothing quite like those aurorae—*until* hyper-drive was invented and the first ship ventured into subspace. There men found themselves worse than blind, in a seething chaos of flame, all known points of reference gone and the usual navigational aids useless. A dozen ships went nova or were lost forever in the star lanes as men groped towards controlling the mad Pegasus of hyper-drive. Then someone, with a last faint intuitive hope, remembered the aurorae of Venus and the primitive inhabitants of the planet, who lived as they had always done, shunning the alien values of the Earthman's culture.

Bradlaugh and Mackeson had gone out together in the manner which had become standard practice—each picking up one of the abandoned youngsters, saving them from the million dangers of the hostile planet. In this way a very solidly based relationship was established between the young Venusian and the Earthman he looked upon as his saviour, and by the time that the Venusian had reached the peak of his intelligence and physical growth at the age of four years he and his mother, as the psyches were known familiarly amongst themselves, were a well integrated team ready to leave the planet for their first trial run on a starship.

If that run was successful the team had another fifteen or more years in which to work together in a loyalty and affection that only a person who had experienced it could understand. A Venusian rarely reached ten years of age in his natural habitat, but under the care of his psyche guardian he often lived to almost twenty, which to a creature of his swift life cycle was a ripe old age.

On the debit side was the fact that a Venusian thus adopted never came to know his own people or their traditions ; if he attempted to return to them after his contact with the Earthmen they would fall upon him mercilessly and tear him limb from limb. Therefore he could never live the normal existence of his kind, but was entirely reliant upon his Psyche to provide him with any affection and social intercourse. This being so, it was only natural that sometimes things went wrong. A

Psyche might make a mistake, or begin to develop some neurosis which had not been detected by his board of examiners at Astrogation School. At such times it was not only the two beings concerned who suffered, but all the other people aboard the starship for whose guidance they were responsible. But Bradlaugh found it difficult to believe that Mackeson of the *Icarus* had made such a mistake.

" Perhaps it was some fault in the drive mechanism," he said.

Heilbron shrugged his narrow shoulders. " You may be right. But we can't be sure of anything until we have developed an alternative method of astrogation."

" Even computors make mistakes sometimes," Bradlaugh pointed out.

Heilbron made a steeple with his small, freckled hands. " Agreed—but computors can be repaired." His eyes moved to Bradlaugh's face with a sudden alertness as he said : " Now —what was it you wanted to talk to me about—*really* ?"

Bradlaugh mentally underlined the opinion he had already formed of Heilbron ; the little electronics man was no fool.

" All right, I'll give it to you straight. Gareg and I keep pretty much to ourselves and things seem to run smoothly that way. Now, I gather that you want to observe us as we work, for the purposes of your research. Is that right ?"

Heilbron nodded. " We need all the dope we can get at this stage. Some small clue, some analogy derived from the manner in which a Venusian tackles the business of astrogating a ship could save us years."

" I can understand that," Bradlaugh said. " But there's more to it than that. Your presence may have a bad effect on him, which could endanger the lives of all of us."

" Aren't you making too much of this thing ?" said Heilbron. " If Astrogation School had thought there might be any such danger, surely they would not have consented to my coming here ? Another point—it didn't make much difference to me *which* team I observed, it was their idea that you should be the ones. Any idea why ?"

Bradlaugh gave a slow, lop-sided grin. " I've got a *pretty good idea*. You see, Gareg and I have got the highest stability ratings in the business. We're supposed to be a sure bet—or as near as you can get to that working with such variables."

"In that case, what are you worried about ?" asked Heilbron.

Bradlaugh drew a big hand through the straggling remnants of his dark hair. " I don't know how much they let you see of the training processes down there on Venus, but you can take it from me that there is a lot of latitude allowed. It just has to be that way ; and as long as results are forthcoming they don't interfere a great deal with the psyche's conception of the needs of his particular Venusian and allow him to work out his own especially tailored approach in each case."

" Sure, I can see the need for that," said Heilbron. " But those are matters of psychiatric technique, way out of my field. All I'm interested in observing is his method of astrogation, to see if it can teach me anything. I have no desire or intention of going any further."

Bradlaugh sighed. This was not going to be easy to explain to a layman. " All right, if you're going to spend some time with us you'll *have* to know," he commenced. " My method works for Gareg and I ; that's all I claim for it, but I don't see how it is going to be of any help to you in developing your computor. The mental tension of Astrogation is what makes so many of the Venusians crack up. The turnover is very high, as you know—most of them lasting less than three years. But they are usually spotted in time and eliminated before any accident can happen."

" Like the *Icarus* and those others," said Heilbron.

" If they *were* astrogation failures, yes. At any rate, I made up my mind at the outset that I was going to do all I could to avoid placing undue strain on Gareg's mind in that way. Look at it from the Venusian's point of view ; at first he has security, friendship and as much food as he needs. But then, as the months go by he begins to realise the full import of what he is doing, the fact that the responsibility for the lives of all the people on his ship depends on him. Even a mature human being would have misgivings about shouldering such a burden, and I believe that it is this realisation that causes the Venusians to crack up.

" I decided that I must find out Gareg's limitations and work on from there, looking for the way of having him do his job which was the best for *him* personally. That was important to me. I soon noticed how engrossed he could become in the simplest game, throwing himself into it with a total concentration such as you only find in children. And then I thought of a way of letting him astrogate a ship, without subjecting him to that killing stress, a way in which the

knowledge of what he was really doing would be hidden from him and he might be able to carry on indefinitely with no ill effects whatsoever. That was when I invented the *Star Game*. As far as he is concerned the ship is just a place where we live. He doesn't bother about it much as a whole, just the small section here where we spend most of our time. I have told him that the ship is guided by the men he has seen in the control room, and he has no reason to question my word."

Heilbron's eyes were wide. "You mean that this ship travels from star to star under the guidance of a creature who thinks he is playing a game?" There seemed something horribly irreverent in the concept. "How can that be?"

"It needs no justification," said Bradlaugh calmly. "It works. Gareg plays the game and I am the eternal umpire. He wins every time, because the game is what he lives for, the one thing in the universe at which he excels. On his level of intelligence the game is the most important thing there is, and that's the way it should be. As long as he keeps on winning, the ship will go on reaching her destination safely on each trip."

"But the deception!"

"Keeps his mind whole and gives him something to live for," Bradlaugh said.

"And if he should find out the truth?"

Bradlaugh placed his fist on the table, clenched and massive. "He won't . . . whilst I'm alive to prevent it. That's one of the reasons I keep him away from people as much as possible. He's quite content the way things are, and I'm satisfied, knowing that I'm doing the right thing for him." He paused. "If you still think you can learn anything by watching us at work, you're welcome to come along. But one wrong word and you're out, understand?"

Heilbron looked slightly dazed. "I'll give it a try."

Bradlaugh rose to his feet, towering over the little man. "Right. Now that's understood, we'd better go along and see the purser. He'll fix up a cabin for you."

"Oh! I'd thought it might be a good idea if I moved in with you and Gareg . . . That is, if you've no objections."

Something deep down told Bradlaugh that now was the time to stop, to turn on this friendly little man and tell him to go to hell, but he ignored it; surely the pattern of existence he had built up for Gareg and himself was strong enough to

survive the presence of an outsider for a few weeks.

" If you're sure that's what you want," he said slowly. " We live in simulated Venus conditions, you know. It may take you some time to get used to the humidity and the heat."

" I'll take a chance on that," said Heilbron cheerfully. " I stood it pretty well on Venus . . . and I'm overdue for a Turkish bath, anyway."

Bradlaugh hesitated for a moment, then said : " All right. But you'll have to leave immediately if Gareg shows the slightest sign of instability due to your presence. Is that understood ?"

" Of course," the electronics man said.

II

The cabin was dimly lit and very hot. After the conditioned sterility of the ship's corridors the air in here seemed to ooze into the nostrils in a leaden stream, carrying with it a cloying odour of fish oil.

Gareg was sitting on the edge of a bunk. He was about five feet tall, the parts of his limbs not hidden by the sodden grey coveralls that were a replica of Bradlaugh's own, were covered in a glistening pale yellow fur, as was his round, flat-nosed head. His eyes were wide and liquid in a face whose main feature was a mouth with jagged, protruding teeth. His body was fat-padded and seal-like, in keeping with his amphibious natural environment.

" Lo, Mike." The Venusian disposed of the sticky remains of a chocolate bar he was eating and wiped his mouth with the back of a web-fingered hand. His voice was high-pitched, a childlike fluting sound.

Then he noticed Heilbron. Inching backwards on the bunk until he was flattened against the wall and drawing his legs up close to his body, he stared at the stranger.

Bradlaugh, aware that this was the testing time, walked forward with a ready grin on his face, signalling with his hand as he did so for Heilbron to remain where he was. The grin was partly genuine ; whatever hiding place the Psyche found for the chocolate bars Gareg could be relied upon to smell them out soon after the beginning of each trip. It was another little game they had between them ; part of their intimate life together.

" Hi, Gareg," Bradlaugh said easily. " You beat the record this time, I see."

A bubbling chuckle issued from Gareg's stained mouth, then he switched his eyes back to the man standing in the doorway, a wondering fear and an appeal for protection in them.

" This is Mister Heilbron, a friend of mine," Bradlaugh said. " He's coming along with us on this trip. They're a bit crowded up front, so he wants to bunk in with us. I told him you wouldn't mind—what do you say ?"

Gareg lowered his legs, his hands grasping the edge of the bunk, watching Heilbron all the time. Bradlaugh wondered if the electronics man would be able to handle the situation, to strike that nice balance of friendship that was required, without seeming patronising. It was up to him now.

Heilbron walked forward slowly, but without hesitation, until he stood over the Venusian. " Hello, Gareg. Nice to know you." He thrust out a hand and grasped the brown stained paw without the slightest sign of reservation.

Gareg looked down at the two hands for a moment, then up againin to Heilbron's face, his misty eyes scanning anxiously. He broke the grip and rummaged in the coverings of the bunk.

" You like chocolate ?" he grinned up at Heilbron jaggedly.

" Thanks a lot," said the electronics man. He began to peel off the wrapping with an air of grave concentration.

" Good." Gareg chuckled again and pointed to Bradlaugh. " Mike's funny . . . Cigarettes all the time—no chocolate. Tried cigarettes once . . . made me sick."

" Me too." Heilbron sank his teeth into the bar with elaborately pantomimed relish. " I'm for chocolate !"

Bradlaugh watched with satisfaction. It was going to be all right. Heilbron had played up to his lead with intelligence. Now that the first impact of a new personality on Gareg had been safely manipulated there was no reason why this trip should not go as well as any other.

" When do we play the game, Mike ?" said Gareg eagerly. " I want to show Heilbron man. I'm good, aren't I ?"

" The best," Bradlaugh said. " But it will have to wait. We'll have to go to sleep soon." He smiled inwardly at the so easily predictable reactions of the Venusian. Of course he would want to show his new-found friend the game, the thing above all that he was proud of. Just like a kid showing off its best toys to a youngster from across the street : ' Look, I can do it with no hands ! I'm a jet pilot, watch me !'

Klaxons hooted throughout the ship. Five minutes to breakthrough. Bradlaugh unlocked the black cabinet on the wall by his bunk and took out the hypo gun. A man *could* stand the breakthrough without a shot, but he blacked out anyway at its peak. This way the twisting, tearing horror was avoided altogether.

" You can take that bunk over there," he said to Heilbron.

Gareg was already standing up, eating yet another chocolate bar when Bradlaugh awoke. He was always the first to recover as if his eagerness to get to the Astrogation Room was sufficient to sap the power of the drug.

" Show Heilbron man the game now, huh ?" Gareg said.

Bradlaugh considered. This was the first course check in sub-space, a crucial point of the voyage, to which he wanted to give his undistracted attention.

" No, not this time. He can come along on some other session. We'll play this first one together, just the two of us." Bradlaugh flashed a warning glance at Heilbron, who was already rising unsteadily from his bunk.

" Yes, why don't you go along with Mike now ?" said Heilbron shakily. " I don't feel so good. This is the first time I've been in breakthrough, you know."

Gareg moved over and placed a comforting hand on the arm of his new-found friend. " You'll be all right soon." His face was pleading, eager. " Come and watch the game."

" Not now, Gareg !" Bradlaugh said impatiently. There was no time to be wasted, the commander would be calling the Astrogation Room soon, howling for course corrections.

" I want Heilbron man to come," the Venusian persisted, turning resentfully on Bradlaugh. " Why can't he ? I want to show him the game and how good I play."

Heilbron smiled his sympathy. " O.K., Gareg. I'll come if you really want me to. I guess I'll be all right in a minute or two."

Bradlaugh bit back a curse. Heilbron was placing him in an awkard position. The man should have had more sense, and played up when he saw the way Bradlaugh was trying to engineer things. Now the Psyche could not stop Heilbron from coming along without openly antagonising Gareg ; and it was necessary that the Venusian should be on top form for this first check. Perhaps he *had* made a mistake in bringing the electronics man to their quarters ; introducing a variable, third

element into a relationship which had always worked so smoothly. " All right—but let's get going," he said, trying to conceal his anger.

The astrogation room was a perfect sphere with glowing, silvery walls, about thirty feet in diameter. In the centre was a much smaller sphere, and above this was the tiny control platform, suspended by fine steel bracings. There were two seats on the platform, each with a compact control panel in front of it.

Bradlaugh swung his heavy body up onto the platform. " There won't be much room, but you should just be able to squeeze in between our seats and the rail," he told Heilbron.

Bradlaugh sat down, placing a throat contact microphone round his neck and a single stethoscope type earphone in his left ear. Through these he could keep in two-way contact with the control room of the ship, without Gareg overhearing. The Venusian scrambled happily up into his position and lent a hand to Heilbron.

" If you keep a grip on the guard rail you should be all right," Bradlaugh said. He flashed a glance at the Venusian, who was hunched over the control panel, his pink tongue moving over moist lips. " Ready, Gareg ?"

" Sure . . . I'm good at it—you'll see, Heilbron man."

" Right." Bradlaugh pulled a switch. The lights in the room died, leaving only the hooded glow of the dials on the control panels.

For a moment there was only viscid blackness and the sound of the far off vibration of the ship's engines. Then, quite gradually, the room began to brighten in a pattern of moving light, as the video pickups on the outer hull of the ship transmitted their images onto the screens which made up the walls. The patterns grew until they became the whorls and spirals of hyper-space. There was no familiar blackness with pinpoint stars in hyper-space, just these ever-shifting, eccentric gobs of light, searing the eyes and twisting the mind which tried to follow their convulutions. Bright yellow and gold fogs roiled and billowed in a manic, incomprehensible motion. Watching them for long the human optic nerves would begin to protest with burning pain, finally retreating into blindness. Bradlaugh heard a gasp behind him as Heilbron tried to withstand the assault on his unprepared senses.

" Don't look to long," said the Psyche. " The idea is that now in effect we are a ship, moving through a three dimensional image of hyper-space. Forget about the walls and look at this." He pulled another switch, and the smaller sphere beneath them began to glow into life with an image of the diamond clusters of the star systems and the familiar blackness of normal space.

" Here, you can use this," Bradlaugh swung an adjustable viewing mask over his shoulder to Heilbron.

Heilbron placed the mask over his eyes. Under its influence the projection in the smaller sphere grew, filling his range of vision. The distances between the tiny stars became greater, giving a truer illusion of the vastness of interstellar space.

" That's not the real thing, of course," Bradlaugh said. "Just a three dimensional projection, the best we can make."

" But I still don't see . . ."

" You will, in a moment," Bradlaugh said.

Gareg shifted impatiently in his seat. " Come on, Mike. Where's my ship ? You're awful slow . . ."

" In a moment," said Bradlaugh. He switched in his contact with the control room, and whispered : " Astrogation to bridge . . . Ready to make first course check."

" Bradlaugh ! Where in hell have you been ?" the voice of the first officer rattled in his earphone. " The old man is going mad up here, howling about wasting fuel . . ."

" We were delayed," replied Bradlaugh curtly. " I'll have something for you in a few minutes. Stand by, please." He reached over and flipped another switch. " All right, Gareg —it's all yours."

Inside the small sphere, close to its centre, the tiny silver image of a spaceship appeared. Thc Venusian's round face bent intently over his specially simplified control panel, and the tiny ship began to move under his guidance. Glancing occasionally at the seething walls of the room and then back into his viewing mask he began to play the star game, which was beyond the grasp of a human mind or of any computor so far developed. Somewhere within his alien perceptions a weird hookup of neural connections enabled him to perceive the necessary relationships between the madness of hyperspace and the image of the same universe inside the small sphere.

The tiny ship soared upwards and across the star fields, with a tortuous slowness that was tremendous speed on that infinitely reduced scale, picking its way delicately between the tiny star systems under the guidance of the Venusian. Bradlaugh was watching Gareg's face. It seemed to move and shift in the light attaining confidence and strength. It was as though only here, surrounded by hyper-space in all its ravening illogicality, was Gareg a whole being, as he might have been in the aurora-flaming night of his home planet.

The little ship was moving slower now, with a creeping steadiness. Bradlaugh began to check through the instruments on his own panel, and to whisper readings into the contact mike. Gareg had now found the true position of the ship in relationship to normal space and was holding it on course according to the data he was getting from the wall screens. The whole miraculous process had taken something less than five minutes.

" Where is home ?" asked Gareg eagerly.

Bradlaugh made another adjustment and a steadily gleaming yellow star inside the small sphere changed colour to a brilliant red and began to pulsate at ten cycles per second.

Gareg chuckled, a high pitched crow of triumph. " Doing fine, huh ?"

" Right on the button," Bradlaugh said. " Now stay with it for a while." He turned his attention to the contact mike, reciting readings and co-ordinates. At length, course and corrections sufficiently established, he concluded in a whisper : " Next check six hours from now, barring emergencies. Astrogation signing off."

" Make it on time, eh ?" said the first officer.

Bradlaugh broke contact without answering and switched on the lights of the room. The wall screens faded.

Heilbron's face was pale and shaken, his eyes wide. For the first time in his life he had truly begun to comprehend the nature of the forces with which mankind was toying : to realise the chaos into which the ship, a tiny capsule containing several hundred human lives, was plunging deeper every second.

" You like the game, Heilbron man ?" asked Gareg reedily. " I told you I was good. I was . . . wasn't I, Mike ?"

" Sure, sure," Bradlaugh nodded.

Heilbron moistened his lips. " It was . . . unbelievable ! I had never imagined. You mean to say that this is the way that a star ship . . . ?"

" Yes, it's a good *game*, eh, Heilbron ? A game, don't forget that," Bradlaugh interrupted him loudly.

Heilbron recovered some of his composure. " Yes, of course . . . a game." He smiled down at the Venusian, who was jigging excitedly in front of him, swinging his seat round on its axis in his jubilation.

" I win every time, don't I, Mike ? When do we play again ?"

" Later. I'll tell you when." Bradlaugh removed the throat mike and head phones and swung down from the platform. Heilbron and the Venusian joined him a moment later on the floor of the spherical room.

" I'm sorry about that business." Heilbron smiled sheepishly over the top of his glass. " The whole thing was so shattering that for a moment I forgot all you had told me."

The two of them were sitting at a table in the lounge of the passenger quarters again. They had left Gareg back in his cabin, with a viewer and a pile of the space-opera tapes he loved.

" Just watch it in future," Bradlaugh said.

" Of course." Heilbron eyed the table top thoughtfully for a moment. " It doesn't seem right in some obscure way that he doesn't know that all this is due to him." He gestured, taking in the spacious lounge and its occupants, the inhabitants of a city that moved between the stars under the direction of an alien with the mind of a child.

" Not if it saves him his sanity ?" grated Bradlaugh. "Look, don't start getting any funny ideas about Gareg, just because you have seen what he can do with that rig in the Astrogation Room. This is his natural environment now, he's happy here with me ; the chances are that if he had stayed on Venus he would have been dead years ago."

" There's one thing I *don't* understand," Heilbron said. " When he asked *you* how he was doing . . ."

" You wondered how I knew ?" interrupted Bradlaugh. His grin was weary, as if the joke was no longer funny to him. " I *didn't*. Even though he knows that he is the best at the game he takes it for granted that I am the one who sets the whole darned thing up. I know it must seem a paradox to you, but that's the way it works. In actual fact, nobody on board, except Gareg, knows where the ship is headed for sure until it makes its second breakthrough into normal space."

" I'd never really understood that before," said Heilbron quietly.

" Of course not—neither do any of the other passengers," Bradlaugh said. " That was why I was surprised when Astrogation School cleared you for this visit. Details on the Astrogators are supposed to be top secret. Perhaps you understand why, now."

Heilbron nodded. " It only goes to convince me more and more that we must find some reliable substitute for them."

" Fine talk," Bradlaugh snorted. " But how much nearer are you?"

A flicker of annoyance showed on the face of the little man and was quickly suppressed. " There's plenty of time. I'll come up with something."

Bradlaugh got to his feet. He could not help but feel some petty satisfaction that he had for once managed to crack Heilbron's friendly veneer—even if only for a split second. " I've got to go along to the control room and make a report now. I'll see you later."

" Right," said Heilbron. " I'll get the rest of my stuff from the purser and take it along to quarters."

The interview with the ship's commander was stormy. Dankwert was one of the old school, with rigid ideas on timing and discipline. Officially he outranked Bradlaugh by several degrees, but an Astrogation Psyche was usually excused most of the formalities of the service. The matter of Heilbron's presence in the astrogation quarters had to be explained. Astrogation School, notoriously lax in official bunkum, had omitted to obtain Dankwert's formal permission and Bradlaugh found himself making excuses to the commander about the matter.

When he arrived back at his quarters an hour later Bradlaugh was seething with suppressed annoyance and indignation. Heilbron and Gareg were sitting side by side in front of a tape viewer which stood on the table.

" . . . and this was one night when I went out on a hunting expedition from Clarke Landing," Heilbron was saying.

The wide eyes of the Venusian were fixed on the viewer in rapt attention, the fine hairs above his top lip vibrating in unsimulated pleasure. A grasping hand tightened in Bradlaugh's stomach as he saw that the screen showed a pale, but convincing reproduction of the night aurorae of Venus.

Making a sudden decision the Psyche walked into the room quickly as if to approach his bunk. As he did so his right sleeve caught the edge of the fragile viewer and it was swept to the floor.

Heilbron looked up, startled. " What the devil ? I was just showing Gareg some tapes I shot whilst I was on Venus."

" So I saw," Bradlaugh said, aware of the tremulous expression of disappointment on the face of Gareg, who had leapt from his seat and was picking the lifeless viewer from the deck.

" It's broken, Mike . . . *you* broke it," said the Venusian reproachfully.

" I'm sorry, kid," he said. " It was clumsy of me. I'll get it fixed for you, don't worry." He took the viewer from the hands of the Venusian. " Help yourself to another bar of chocolate—you'll find some in the cupboard in the recreation room, on the top shelf."

Gareg grinned, momentarily diverted, and headed into the adjoining room.

Heilbron who had been sitting quite still, his eyes on Bradlaugh's face throughout the episode, said quietly : " You did that on purpose."

" Of course I did !" rasped Bradlaugh, ripping the back from viewer and pulling out a roll of tape. " Here, take this ! Burn it or do some damned thing with it—but don't go showing it to Gareg again."

" But why ?" The freckles stood out blotchily on Heilbron's livid face.

Bradlaugh struggled to keep his voice to an undertone. " God, man ! Haven't you got any damned sense ? If you keep on showing him shots of Venus he is liable to develop a homesickness that could build up into a neurosis."

Heilbron thrust the reel of tape into his pocket. " I was just trying to be friendly. I . . . thought he would like it."

" Lots of us like things that are not good for us," Bradlaugh said. His expression softened a trifle. " I'm sorry, but you must allow me to know best in matters of this kind. O.K. ?"

The tension subsided as Heilbron said : " All right, Mike—you're the doctor. I'll be more careful in future."

" Fine." Bradlaugh placed the viewer back on the table. " I'll take that along with me the next time I go in the direction of the stores—they'll give me a new one. But remember in future ; Gareg is only to be shown the tapes I have vetted for

him. You'll have to think of some excuse for not showing him any more of yours ; say that the new viewer is the wrong type, or something like that. He should forget about them in time ; his memory isn't as retentive as that of a human."

The conversation came to an abrupt end as Gareg reappeared in the doorway, a chocolate bar in each hand.

" Would you like one, Heilbron man ?" asked the Venusian.

" Thanks." Heilbron accepted the gift with a smile.

III

Things went well for the next three days, with Heilbron keeping carefully within his role of observer and not interfering with what work had to be done. The friendship between the electronics man and the Venusian was growing, and apart from a small twinge of loss, which he dismissed as childish, Bradlaugh could find no objection. He tried to tell himself that in one way this three-handed situation was a blessing. It gave him more opportunity than he had ever enjoyed before to spend some time in the passenger section of the ship ; time to remember once again that he was a human being and that he needed the society of others of his kind sometimes.

But alongside this satisfaction there was a growing sense of guilt that he might be neglecting Gareg. This only crystallised into sudden consciousness on the fourth day out, when he arrived back in their quarters after spending several hours in the Officers' Mess.

Gareg's new tape viewer and reels lay scattered untidily over his bunk, but neither he nor Heilbron were in sight. Bradlaugh walked swiftly through into the recreation room, but they were not there. An alarm bell ringing in his mind, Bradlaugh headed out into the corridor again, slamming the door behind him. Something had gone wrong, he was *sure* of it.

Along at the Astrogation Room he found that his intuition had been correct. The panel above the door shone its red message : ASTROGATION CHECK IN PROGRESS—KEEP OUT ! Short of blasting his way through there was no way of getting into the room—the door was automatically locked from the inside when the wall screens of the spherical room were in use.

Bradlaugh slammed his fist against the polished alloy of the corridor wall. *Heilbron* ! Gareg had never before done any-

thing like this—not when he had been on his own. He had never been in the Astrogation Room alone, without Bradlaugh, in fact the idea would never have occured to him unprompted.

Bradlaugh turned on his heel and headed back to his quarters. He sat fuming inwardly for almost another hour before the door of the room opened to admit Gareg and Heilbron. The Venusian's face was animated and he seemed in a high state of excitement.

" 'Lo, Mike !"

"What the hell do you two think you're playing at ?" Bradlaugh ground out his cigarette savagely and rose to his feet.

Heilbron looked across at him calmly, a mild half-smile on his sharp features. " We were up in the Astrogation Room."

" I know fine *where* you were," snapped Bradlaugh.

" I'm sorry—have I done something I shouldn't ?" Heilbron said surprised.

Bradlaugh ignored the electronics man and turned on Gareg. " What did I tell you about always having *me* with you when you go to play the game ?"

The Venusian sidled away from Bradlaugh's anger, his lips quivering. " Wanted to show Heilbron man some more . . . He's smart, plays as good as you . . . almost." He grinned uncertainly. " But I'm still the best, aren't I, Heilbron man ?"

" Sure you are kid," Heilbron said.

Bradlaugh glared at him. " You remember the time when you stole the stuff from the crew quarters ?" he said to Gareg.

The Venusian cowed away, slumping onto his bunk. All the elation was gone from him now. Bradlaugh felt a tinge of self-disgust. The punishment had not been severe, merely that he had not allowed Gareg into the Astrogation Room for a whole day. The game was all he lived for, so if he did not do as he was told he did not get to play the game ; the remedy was as simple as that.

There had been a great deal of explaining to do to the commander on that occasion. It was difficult to make the old man understand that it was essential he should drive his ship blind through hyper-space for that length of time. But the disciplining of Gareg had to be a simple thing of deprivation—and the game was all he cared about for the punishment to have any lasting effect.

" I'm sorry, Mike . . . Thought it was all right with Heilbron man." Bradlaugh felt another wrench of remorse as the great tears began to form in the smoky eyes of the Venusian and coursed oilily down his furred cheeks. *Damn* Heilbron for forcing him into this position !

" Now just a minute." Heilbron stepped forward. " Don't you think you're being a bit hard on him ? The fault was really mine ; I made the suggestion. I had no idea that you would not approve."

" You should have discussed it with me first !" barked Bradlaugh. " Your own commonsense might have told you." His annoyance grew as he saw that Gareg was looking at Heilbron now with a doglike devotion ; looking to this stranger who he had only met a few short days before as a champion. After he, Bradlaugh, had given years of his life to perfecting this relationship between himself and Gareg.

" All right, Gareg," he said with a desperate weariness. " Forget about it this time, but don't let it happen again—understand ?"

" Sure, Mike . . . I'm sorry, honest." The voice of the Venusian was high-fluted and pleading. " But I was good in there, wasn't I, Heilbron man ? You tell Mike . . . "

Bradlaugh lumbered forward, towering over the electronics man, his big, blunt face twisting and furrowed with tension. He had made a mistake. He had suspected it earlier, right from the outset ; but he was *sure* now. This threesome was not going to work out. The threads of communication between himself and the dull mind of Gareg were too tenuous to allow of *any* interference. This was not a personal matter ; the lives of everyone on board the ship depended on his efficient handling of Gareg.

" I want to talk to you, Heilbron . . . outside," he said.

The electronics man eyed him questioningly for a moment then followed him out into the corridor. They walked in silence until they rounded the bend out of sight of the living quarters, then Bradlaugh turned to Heilbron.

"Look, Mike, I'm sorry about that," Heilbron said hurriedly

" *Sorry* . . ." Bradlaugh mouthed the word and spat it out as something distasteful.

" I didn't think it would matter. I wanted to watch Gareg at work and be able to talk to him without interfering with your astrogation check. I had a lot of ideas fermenting in my mind from the observations over these past days."

" I might have expected something like this," Bradlaugh said.

" What do you mean ?"

Bradlaugh's anger demanded the satisfaction of expression. " Ever since I brought you along here you've used every cheap trick you can think of to ingratiate yourself with Gareg. You've tried to make yourself into the big pal, pushing me into the position of a mean step-father. Can't you see what you've been doing ? The relationship between Gareg and I goes far beyond mere co-operation in a common task, and I'm not going to allow you to wreck it."

" What are you going to do ?" asked Heilbron.

" You'll spend the rest of this trip in the passenger quarters," replied Bradlaugh. " Whether you like it or not."

" And what will you tell Astrogation School ?"

" That you failed to obey my orders and I considered your presence in the astrogation section a menace to the safety of the ship. They won't question my judgement." Bradlaugh stopped as he saw the expression on Heilbron's face.

" Gareg never questions your judgement, does he ?" Heilbron said. " How does it feel to play God to a moron ?"

A blind fury goaded Bradlaugh and he lashed forward with his clenched fist at his tormentor. The action was pure stimulus response with no conscious thought involved.

The fist crashed into the middle of Heilbron's face with all the force of Bradlaugh's fifteen-stone body and he reeled to the deck. The full enormity of what he had done only began to seep through into Bradlaugh's consciousness as he watched Heilbron struggle to his feet again. Already his logical mind was trying to thrust back the shame he felt and find some sensible reason for his action. The anger was gone now, leaving a sick emptiness.

" I hope that made you feel better," Heilbron said, without malice. He fingered his battered face tenderly.

Bradlaugh made no reply, his face stony and removed, hiding the turmoil of his self-condemnation.

" Now perhaps you'll listen to me for a while," continued Heilbron. " You've got to realise what is happening to you before it's too late. You may have removed the strain from Gareg by this game pretence, but you've only succeeded in making your own burden greater."

" Gareg *has* to be protected," Bradlaugh said.

" At the cost of your own sanity ? Don't you see that you yourself are coming to believe, like him, that there is nothing else in the universe but this ship and your never-ending game ? The two-way relationship with him is growing into such a closed circuit symbiosis that you are totally out of touch with normal human society. I know how you feel about this work, my own means just as much to me. But *you're* not dealing with machines and circuits, you are handling emotions, and you can't do that without becoming deeply involved.

" You weren't angry just now solely because I had made Gareg disobey your orders ; the thing is more fundamental. I've seen it growing since our first meeting—you're jealous because you can see me taking some of Gareg's attention from you. You're afraid unconsciously that I may somehow usurp your place with him and leave you without the security of your two person universe.

" Naturally I tried to win Gareg's confidence. It was the obvious thing to do if I wanted to observe him working. I didn't understand at first that there is only room for two personalities in the set-up as you have built it. Not just for Gareg's sake, as you have implied, but for your own as well. It wasn't easy for me to ingratiate myself with Gareg," Heilbron repressed a shudder. " But I was prepared to subjugate my feelings for the benefit of my work. Actually I find him a *disgusting* little beast. The very first sight of him filled me with loathing, but I choked it back and covered up. You were so blinded by your own rigid attitudes that you failed to notice. Every moment that I have spent in his presence has been agony for me. The endless zoo stench of your quarters has been like living in a private hell for the past four days—the very sound of his breathing makes my flesh crawl."

Bradlaugh stood for a long time looking down at the little red-haired man in silence. There *was* no reply. He himself, if he had been able to take an independent viewpoint could not have analysed the situation with greater insight. But that did not make it any easier to accept the diagnosis. Later, he knew he might find it in his heart to be grateful to Heilbron, but at the moment the most important thing was to get the man away, out of his sight.

" I'll have your stuff brought up to the passenger section for you," he said. They began to walk quietly along the corridor, keeping their distance from one another. Bradlaugh was

thankful that Heilbron now had the grace to remain silent. Another word, a wrong gesture even, and he doubted if he would have been able to curb his resentment, despite the fact that the logical part of his mind accepted what had passed between them.

As they rounded the corner Bradlaugh noticed with a shock of surprise that the door of his and Gareg's quarters was wide open. He thought back, and distinctly remembered closing it when he and Heilbron left.

" Wait here," he whispered. " I'll close the door. It would be best if he didn't see you leave. I don't want to upset him more than necessary." He hurried forward.

He stood for a moment in the doorway looking inside, then turned to Heilbron, an icy foreboding gripping his gut. " He's not there !"

" Are you sure ?"

Gareg had always been so predictable and contented before. Something must have happened to make him disappear in this way . . . A thought hit Bradlaugh, a knife of fear that buried itself deep in his brain. Ignoring Heilbron he began to run down the corridor towards the first bulkhead door.

Passing through into the crew section he came face to face with a maintenance man in greasy overalls. The man flashed a quick glance at his strained face and stood aside to let him pass.

" Everything all right, Lieutenant ?"

" I don't know yet," Bradlaugh said. " Have you seen Gareg ?"

" The little guy ?" The man's face puckered in thought. " Yes . . . Now you come to mention it, I noticed him getting into an elevator along back there somewhere. I've never seen him in this part of the ship without you before."

" Where's the nearest intercom ?" Bradlaugh asked quickly.

The crewman pointed to a door further along the corridor. " Right there, in our recreation hall."

" Thanks." Bradlaugh rushed into the room, closing the door behind him. Luckily there were no crewmen inside. He called control. " This is Bradlaugh, Astrogation Psyche. I want you to put out a general alert to all crew. Gareg has left this section by elevator on his own, and he's in a disturbed state of mind. I've got to find him. He might be anywhere in the ship by now."

" Man ! You're really having yourself a time this trip," came the cool voice of the first officer. " First you're late on report, and then you lose your baby. Fine mother you turned out to be !"

" Knock it off !" barked Bradlaugh. " This could be serious. Put out that call right away."

" O.K., Mike, I was just fooling," said the first Officer. " I'll call control points on all levels, they'll soon pick him up for you."

" No ! Don't let them touch him. Just tell them to find out where he is—I'll come up and get him."

" Will do," said the first officer. " I'll call you back as soon as I get anything. Where can I get you ?"

" I'm on my way up there now," Bradlaugh said. From the control room he would be able to keep in touch with the search as a whole.

Outside in the corridor again he met Heilbron.

" What's going on ?" asked the electronics man. " Is there anything I can do to help ?"

" You've done enough already," Bradlaugh said coldly. " Gareg must have followed us out of our quarters and heard every word you said. Can you imagine what it must have done to him ?"

" My God !" Heilbron's face was suddenly pale. " What will he do—run amok ?"

Bradlaugh shook his head. " No . . . that's the one thing he won't do, he isn't built that way. Such a rejection would tend to make a personality like this withdraw into itself—perhaps so far that I shall be unable to communicate with him."

Bradlaugh pushed past the crewman on duty at the door and walked into the control room, the nerve centre of the starship. The huge wall screens were dead, useless in hyper-space. One man stood checking the twenty-foot bank of control dials as the ship sped onward blindly. Further along to his left the first officer was standing by the intercom switchboard operator.

" Any news ?" Bradlaugh asked.

" Just a report that he has been seen recently on the fourth level," said the first officer. " They're combing the section now. Just how serious is this, Mike ?"

" You can figure that one out for yourself," Bradlaugh said, tautly. " I can only guess at his state of mind—but it must be pretty bad."

" Without him we haven't a cat in hell's chance of reaching our destination," said the first officer. " If we breakthrough without knowing where we are we might come out in the middle of a sun, and if we keep on going we might lose ourselves so far off the known star lanes that we'll never get back inside a dozen lifetimes."

" Then *find* him !" Bradlaugh snapped. The officer was only interested in the safety of the ship. To him, Gareg was nothing more than a machine, his personal suffering was of no concern. Bradlaugh cursed the ship which had dominated both his and Gareg's life for so long. The Venusian had to be found and helped. The poor little devil had been terribly hurt. Hurt because of Bradlaugh's inefficiency in protecting him. There was no use in blaming Heilbron, the responsibility was his alone.

" What more can I do ?" said the first officer. " I've got a hundred and twenty men out looking; all that can be spared from essential duties. They *must* come up with something soon."

But would it be soon enough ? What was Gareg doing ? What had the shock of hearing someone he had looked upon as a friend tearing his world apart done to his clouded, immature mind ? Bradlaugh was closer to praying than he had ever been in his life. If only he could find Gareg and comfort him.

The Psyche had never before been so conscious of the hugeness of the starship. Gareg might be anywhere in the labyrinth of corridors and compartments which made up the six levels. All he could do was wait here until there was some message, wait with a growing desperation, checking back over his own mistakes and finding himself wanting in so many respects. The collar of his coveralls seemed to be choking him. He ripped it open.

" Call in your check points," he said breathlessly. " That sighting on the fourth level may have been a mistake."

" It's the only lead we have to go on," said the first officer.

" Maybe, but tell all of them to keep their eyes open for *anything* unusual." It was incredible that Gareg should avoid detection for so long. In his present state of mind it was unlikely that he would wish to make contact with people, but moving around the ship he *must* eventually meet someone who would report his presence.

The intercom operator turned his head. " Security guards on fourth level, complying with your order to report anything unusual. They say there is one suit missing from Emergency Airlock 57."

The first officer nodded distractedly. " Tell them to put in a report to the quartermaster. We're looking for a living creature—not checking the ship's inventory.

Bradlaugh stiffened . . . *It was just possible* !

" Wait a minute !" he shouted. " Fourth level again, you say ?" The missing suit did mean something, it *had* to. " Perhaps searching anywhere inside the ship is useless now."

The first officer understood his implication. " We're in hyper-drive, man !" he protested. " Nobody would walk into that madman's dream of their own free will."

" Except a Venusian astrogator with too much on his mind," Bradlaugh said. " Hyper-space is almost his natural element to Gareg. *We've* never ventured outside a ship in hyper-space because we would be unable to see, but with him it's different."

" You could be right," admitted the first officer.

" I've *got* to be."

" But how are we going to get him back ?" The first officer gestured to a small pilot screen which showed the rolling lights of hyper-space. " I can't order a man out into that, even if I thought he had a chance of finding Gareg."

" I don't want you to," Bradlaugh said, making for the door. " This is *my* responsibility."

" The old man would never allow it," the first officer said.

" I'm not asking him," Bradlaugh said. " What was the number of that lock again ?"

" Fifty-seven . . ."

" Good. Tell them to stand by. I'll be there in two minutes."

Bradlaugh donned the spacesuit under the half incredulous, half admiring eyes of the two security guards and stepped into the airlock. As the door closed behind him he felt suddenly very alone. What was he trying to prove, anyway ? It would have been perfectly easy for him to request that the commander send out a couple of crewmen. There would be volunteers if they were told of the seriousness of the situation, despite the danger. There always were. But the possibility that the ship might be lost in hyper-space was a small thing in the background of Bradlaugh's consciousness beside the gnawing

anxiety he felt for Gareg. The safety of the Venusian was his own personal trust.

Bradlaugh waited for a small age as the air slowly expelled from the lock and the outer door opened. Reaching upwards he attached his safety line to a cleat just outside the door with swift, careful movements. He knew that his chance of a return to the lock would depend on its remaining in position.

He climbed out onto the hull and struggled upright. In doing so his head passed out of the shell of force from the generators which enfolded the ship and he looked directly into the swirling madness of hyper-space for the first time. A surge of vertigo hit him, blanking out his sense of balance. If it had not been for the magnetic soles of his boots and rigidity of the suit he would have fallen.

Bradlaugh's eyes felt as though they were being twisted out of their sockets, and his head ached intolerably as the optical centres of his brain attempted in vain to translate the scrambled data which bombarded them into a recognisable symbology. Whorls and streaks of intangible flame danced around him in mind twisting, chaotic patterns.

He raised his hand until it touched his helmet. He could just distinguish its general outline. Moving it slowly away again it vanished in shimmering haze before it was more than three inches distant. Sight could only be a distraction in the search. He stood for several minutes, deliberately staring into the kaleidoscopic anarchy, until finally his overloaded optic nerves gave up the struggle and he was totally blind. With luck his sight would return in a few hours after he had spent some time in a darkened room aboard the ship. *If he ever got back inside the ship.*

His only means of communication now was the suit radio, which was automatically activated when the suit was pressurised. Now the search could begin ; a blind man looking for a child alien who did not want to be found. The rejection by Heilbron, after the gradual, calculated winning of his trust, could have had no other effect, Bradlaugh was certain. Gareg had come out here to avoid contact with humans entirely, and there was always a chance that he might prefer to die rather than face more of such agony as he had been through.

The tiny helmet speaker surged with life, buzzing and crackling with the combined interference of hyper-space and the energy radiated by the ship's drive generators. He could detect no other sound, but the radios would only be good for about a

twenty yard range under such conditions. There was another hazard, which he studiously ignored ; it was just possible that Gareg might have deliberately switched off his suit radio in order to be more certain of his isolation.

The Psyche began to grope his way forward, calling Gareg's name over the radio. There was no true sense of direction, his blindness leaving him without any points of reference. Loosening his safety line gradually he moved in a growing spiral, with the airlock as his centre point. It was like being in freefall inside a pitch black bottle, and he had to stop several times as his stomach responded to the nausea of disorientation. His own voice echoed mockingly in his helmet.

At last, during one of his rest spells, he heard something over the soughing and crackling of the suit radio. A non-human keening, a sobbing sound that rose and fell. There were snatches of words there too, but unintelligible. The transmitting set was almost out of range. Bradlaugh moved forward a few yards and stopped, holding his breath to listen again. There was nothing but the background noises.

Turning back, he walked as near as he could tell in the opposite direction, trying to get some sort of a fix on the other suit radio. The sound came through stronger ; a high, tremulous wailing, followed by a jumble of groaning words. The heart cry of an injured, suffering animal.

" Gareg ! Gareg !" Bradlaugh called, trying to break through the catatonic musing. Alongside came the chilling thought that the Venusian's mind might already be too far gone for contact to be made.

There was no acknowledgement of his cry and the sound began to fade gradually, as though Gareg were moving away. The fact that he was still capable of voluntary movement showed at least that he was not completely lost, paralysed, in the womb of schizoid madness.

Bradlaugh was at the extreme length of his safety line now. All he could do was circle and hope to pick up Gareg again. He moved with more urgency now, repeating his call again and again.

The sound of Gareg's voice surged in his helmet, much stronger than before. The Venusian could only be a few feet away at most. Bradlaugh knew the full frustration of blindness. There was no acknowledgement of his own calls, just the horrible, jumbled musings, in which the names of himself

and Heilbron occured frequently. A sick mind trying to work on itself, finding some sort of an orientation in a universe which had crumbled. But it was a poor thing of a mind even at best, and the struggle was beyond its powers of rationalisation.

" Gareg ! For God's sake—this is Mike !" shouted Bradlaugh. " You've *got* to listen to me !"

The animal sounds stopped. Again there was nothing but the crackling of the receiver. Whether Gareg had suddenly moved out of range, or whether he had stopped his keening to listen, Bradlaugh could not tell. But he carried on talking in the hope that he *did* have an audience. There was a faint chance that he might gain Gareg's attention by a shock tactic. It was a risk, but he decided to try.

" Gareg ! You've got to come back inside the ship. You must come and play the game again, for the sake of the people on the ship—*all their lives depend on you* !" Would the Venusian understand such a concept ? Bradlaugh carried on desperately. " The game isn't really a game. It is the way the ship, the real ship is guided between the stars. And you are the only one who can do that important work." Bradlaugh waited, holding his breath.

" Yes, game . . . I'm good . . ." At last the words were making some kind of intelligible pattern as Gareg spoke. " Heilbron man, I showed him . . . Tell him, Mike. But Heilbron man, he said those things . . ."

" Gareg, you *must* understand. We all depend on you—you're the most important person on the ship. You've got to come back !" Bradlaugh peered into the blackness that was his blindness, hoping that he had struck some chord of response.

" *Important* !" Then there was something bubbling and horrible, between a manic laugh and a scream.

" Gareg ! Can you hear me ?" Bradlaugh shouted. " Do you understand about the game ? All those people may die if you don't come back."

" Die . . . what I care ? Sure, understand. The game is the real ship. I'm good at the game, aren't I, Mike ? Tell Heilbron man." The voice began to grow fainter again. He was moving away.

" Come back, Gareg !"

" No. You go inside. Be all right there . . . live long." Fainter still. " I stop here with the God lights."

A cold husk of fear was closing in on Bradlaugh, squeezing out all hope. He had made his appeal and lost. Gareg did not care about the people on board the ship—why should he? He said that he understood, but in reality the concept was beyond his powers. To him, the ship was a great, impregnable safe thing. No harm could come to those inside it. And for himself, he just wanted to be alone with anguish under the blanket of hyper-space.

Bradlaugh blundered forward desperately. The insensate legs of the suit saved him pain, but he felt the impact as he tripped blindly over some low-lying obstacle and fell forward. His whole being constricted with shock as he felt the snap of the safety line as it parted.

Now he was free to follow Gareg. But the penalty of failure would be certain death from asphyxiation when the air supply of his suit gave out. Without the help of the Venusian he could never find his way back to the airlock.

He picked himself up wearily and trudged on, shouting Gareg's name hopelessly. Onward through an eon of subjective time, completely lost.

So this was the way it ended. A dull hopelessness began to settle on him. There seemed no point in further effort. Better to open his helmet and die now, quickly, than to prolong the agonized, futile quest.

Then miraculously the voice of Gareg surged again in his helmet, rambling on, the same tortuous monologue of pain.

"Gareg, this is Mike!" Bradlaugh shouted. "You've got to listen to me—please!"

"You go inside, Mike. I told you. Nobody can hurt me here . . ."

"I *can't* go back. My safety line is broken, and I'm lost. I shall die out here without your help. Please! Come and help me back to the airlock."

There was a long silence. Bradlaugh found that he was trembling uncontrollably, his limbs bathed in the sweat of fear. He cursed himself for a coward, then cursed the systen that had brought him out here to die.

Then he heard Gareg's voice again, coming louder. "Mike must be all right. Mike plays the game with me. He's my friend . . . my real friend."

Bradlaugh realised with a surge of hope that he had accidentally touched on the one appeal which Gareg could not resist.

The Venusian might remain indifferent to the death of a thousand anonymous people, but even in his disturbed state of mind the ingrained paths of loyalty and affection could not be ignored.

" Good boy, Gareg. I'm over here. Help me back."

" I see you, Mike. You shouldn't come out here."

" I came to help you," Bradlaugh said. " You can't live out here for long. There's only air for six hours in your suit."

" Then I take it off . . ."

" No, Gareg ! You'd die. Take me back to the lock."

" Lock . . . sure, Mike." Bradlaugh's heart leapt as something touched him on the shoulder.

" Good boy, Gareg," Bradlaugh spoke gently. " To the airlock."

" Sure, lock . . . Come . . ." The hand left Bradlaugh's shoulder and the voice began to grow fainter. Gareg was walking away, expecting Bradlaugh to follow.

" No, Gareg !" screamed the Psyche. " I'm blind out here —you'll have to lead me." Anger, the words idiot, fool, crazy moron, chased themselves through Bradlaugh's mind as he waited. And these were the tenuous threads of reason upon which the existence of himself and all the others aboard the ship depended.

Then, mercifully the hand was on his shoulder again.

" Blind, Mike. Sure, come lock now . . ."

Bradlaugh stumbled slowly forward, following the pressure of the hand carefully. If it was wrenched free he knew that he might have to go through the whole agonising process again. Even now, walking towards the lock, Gareg might lose track of his motivation and forget what he was supposed to be doing.

" Lock here. Step down inside, Mike," Gareg mumbled finally.

Bradlaugh got down on his knees and found the lever. His ebbing strength could hardly manage to open it, but it yielded at last and he knew that he was safe. But *his own safety* was only a small part of the total.

" Gareg, you must come back with me," he said.

" Why back ? For the game ? It doesn't matter any more. I stay out here where nobody can hurt me . . . for always."

Bradlaugh tensed himself. Everything depended on what he said now. Were the bonds of empathy sufficiently strong to make Gareg risk the pain of rejection yet again ?

" No . . . Not for the game—*for me*," he said, with the gentleness of a mother talking to a small, frightened child. " *I* need you, Gareg." *God pity me, it's the truth*, he thought. *Just let it happen this way and I'll never let anybody hurt him again.*

He waited for what seemed a very long time. Then he felt the touch of a hand on his suit again.

" Only for you, Mike. Not for the game . . . or the other people," Gareg said.

Bradlaugh stepped into the airlock, knowing that Gareg was close behind him. The crisis was past, but Heilbron was right ; another way of astrogating the starships *must* be found. By bringing Gareg back into the ship he was exposing him to the risk of more mental agony. And that was too high a price to pay—*even for the stars* . . .

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Oxford.

Dear John,

You may recall that Sir Thomas Beecham once described British music as ' a continuous series of promissory notes.' Sometimes I have wondered if he was not talking about British s-f. However, let's not raise that here : the point is, the scene has changed. We now have a magazine which looks a real professional job, and I'm sure that's the first requirement for good work—and I'm talking about *New Worlds*.

The rule about having no interior illustrations is good. Other s-f mags please copy, and extend the rule to cover those bug-eyed monsters. The neat layout of the old *Unknown Worlds* took a lot of beating. But the Brian Lewis cover on *New Worlds* 69 raises my hopes again ; it will be interesting to see what this man Lewis does next ; I think he's on an ascending spiral. He has the essential ingredient needed on the cover : style.

But the best feature of No. 69 is not its face but its backside. You have brought *Postmortem* back. This is an excellent move, and we will spare you the jokes about having at least a couple of pages readable ! Readers of s-f always seem to write interesting letters. There's generally something to haggle about, after all.

No doubt you will have a lot of letters commenting on what Bryan Welham has to say about lack of characterisation in s-f. It is one of those points which crops up time and again, to which all writers give a great deal of thought. Often, of course, lack of character is painfully obvious ; the writer has a bright idea and is more interested in putting that over than in drawing the people concerned. He will still have to show them in relation to the bright idea—which may be, say, the discovery of a depilatory lotion which, it is found later, grows hair on the inside of the cheeks instead of the outside. Obviously, all characters have to be related to the depilatory, for that is the whole point of the story. The result is a story with

good enough people, but with no—or only the most superficial —interplay of character between them. Yet interplay of character is what goes on in life all the time, and it can be rugged. This, I suspect, is what a lot of people miss when they complain about lack of characterisation.

There's another difficulty here, too, from a writer's point of view. Where are these lotion inventors anyway? The reasonable answer is : in a laboratory. And it is difficult to draw a fresh picture of people in laboratories. There have been so *many* fresh pictures of people in laboratories.

Take this question from another point of view. Do you really mean lack of characterisation, or people doing unlikely things? You may not be able to believe in a hero who does unlikely things, and you may brand this as ' lack of characterisation.' Example : Joe lives in the 30th-century. Living is good, except that they have this state-run scheme of marriage by lottery—you go and play a bagatelle game at the Town Hall to see which girl you get for life. Right. Joe loves Lulu. Being a bright lad, Joe knows that his chances of drawing Lulu are about one in a million. Mental torment for Joe.

So far so good. Now the usual way of rounding this story off is for Joe somehow to get the Lulu. Either he shoots the dictator who imposes the lottery, or he finds a clever way of fiddling the bagatelle game, or some such gambit. This is what you might call a standard sort of s-f plot, which must mean that a lot of writers and readers are happy with it. Its twofold advantages are (a) that you have ingenuity at two crucial points, the beginning (with the background idea) and the end (the way Joe gets Lulu), and (b) that obviously everything is rounded off neatly.

To my mind, and probably to Mr. Welham's mind, life just is not like this. It is unlikely that an ordinary chap like Joe would be able to upset or circumvent the established order of his times. No, the real story in this case should depict poor old Joe playing his fatal game of chance, winning cross-eyed, pimply, stout-hearted Nelly, and raising six lusty nippers to the glory of Big Brother. It may be hard on Joe, but fictionally it gives him a whole new dimension of character. Why? Because here you have him behaving like most of today's heroes : loathing a lot of what he sees going on around him, but sweating it out and giving all those round him the best life possible in the circumstances.

Brian W. Aldiss.

Chicago, U.S.A.

Dear Mr. Carnell,

Your covers by Brian Lewis are wondrous things. More, more, more ! I met Brian in London and had some very interesting conversations with him. You see, he and I have much in common, for I am also an artist.

Stories—very good. I will not try to analyze any individual tale, but I will say that I have not been disappointed in any, long or short. I see that Harry Harrison has one in *Science Fantasy* No. 28—I remember that he stayed in England to write and am interested in reading this new one of his.

Edward E. Bieldfeldt.

Alost, Belgium.

Dear Sirs,

I follow regularly eleven different American science fiction magazines for many years and I still wonder why, with all their past experience, their contents cannot achieve the same quality and good reading as your publications ! This, together with the Soviet Sputnik being the first man-launched satellite, will always puzzle me !

With regard to your readers' department in *New Worlds*, I believe you will be satisfied to know that the justified fame of your magazine is also spread in French and Dutch speaking countries.

Louis E. van Gastel.

Peterborough, Northants.

Dear Ed :

The general standard of the current issue (No. 70) is just about an all-time high. Whatever else I say about it one thing is certain—there is not one badly told story ; there is not one bad story, anyhow. I hope the difference is clear !

If I were not trying to go through the motions of being a writer, I would have thoroughly enjoyed " For All the Night." Wyndham does write so well that he could call almost anything s-f and write it so that he would get away with it. Taking the blurb on the cover seriously, I agree that all the people in the story are close to reality. I found myself wishing that I knew Ticker and his friends better.

I liked " The House Of Lights," which proves that I can stand a plot with whiskers on it if it's well done. The atmo-

Brian Lewis

London

Technical artist with a leading radar company, it has only been in recent years that Brian has become interested in science fiction art, most of his work having taken him through engineering draftsmanship. He feels, rightly, that this profession has given him a good grounding in mechanics and enables him to be technically accurate when illustrating spaceship scenes. In fact, he was recently consulted by Associated Rediffusion and had a credit line as Technical Adviser on a thirty minute TV play hammed-up as science fiction.

Following technical school he entered the RAF for a seven year term and it was during this period that he first started reading science fiction, although he never expected to be connected with the medium other than a reader. He is a great fan of Ed Emsh, America's leading s-f artist, but doesn't intend emulating his style although he admits that there may be similarities as both of them are striving to achieve alien atmospheres with their paintings.

" The new-style paintings requested by editor Carnell," he states, " give tremendous scope to an artist with imagination and I hope to make every painting as radically different as possible. There is no limit to the colour combinations and abstract symbolisms that can be used and I feel that we are setting a new standard of cover illustration specifically suited to science fiction."

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sphere reminded me of some of the earlier van Vogt stories. It was very tense, very well written, though it made me realise that soon I may qualify for the title of OATF (old and tired fan). You have to hand it to young Silverberg—" The Macauley Circuit " is slick, alive, pointed and entirely credible, and one can forgive its tendency to didacticism. It is, in fact, a convincing rewrite of a very old one—convincing because he has picked the right characters to show his story off.

" Track 12 "—I like Ballard enormously, but wasn't this one too short? Nevertheless, I think he has a new basis for a sure-fire standard plot.

As for " Wasp "—I must be weakening ! While recognising that this is minor Russell (he was doing much better twenty years ago) I found myself liking the story, if only for the dexterity with which it was handled. Has some of his background material from the full novel been cut out of the *New Worlds* version? (*Yes—Ed*). I ask this because there are times when I wish he had spread himself a bit more.

John Hynam.

Peterhead,
Aberdeenshire.

Dear Mr. Carnell,

Science Fiction Adventures is an excellent magazine, very well illustrated. I enjoyed every story but the last, which I thought pretty poor. Seeing an advertisement for *New Worlds*, I ordered this magazine also. The stories were good, especially " Wasp." But I was rather disappointed to find the magazine not illustrated. I think it gives a magazine greater appeal when stories are well illustrated, and unlike some people, I would not grudge a few pages devoted to the same. I am still hopeful that future editions of *New Worlds* will be illustrated.

D. Suttor.

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